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Graduate Catalog

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LEONARD STRIGHT HALL



Indiana University
of Pennsylvania

University Calendar

Summer Session, 2004

Intrasession begins	May 10
Intrasession ends	May 27
Summer Session 1 begins	June 7
July 4th holiday (no classes)	July 5
Summer Session 1 ends	July 9
Summer Session 2 begins	July 12
Summer Session 2 ends	August 12

Fall Semester, 2004

Registration	August 29
Classes begin	August 30
Labor Day (no classes)	September 6
Fall Recess (no classes)	October 18-19
Thanksgiving recess	November 24-28
Classes resume	November 29
Classes end	December 13
Final exams	December 14-18
Commencement	December 19

Spring Semester, 2005

Registration	January 9
Classes begin	January 10
Martin Luther King Day (no classes)	January 17
Spring recess	March 7-13
Classes resume	March 14
Professional Development Day (no classes)	April 19
Classes end	April 26
Reading day	April 27
Final exams	April 28-May 4
Commencement	May 7



*IUP is the largest member university of Pennsylvania's State System of Higher Education
and the only one authorized to grant doctoral degrees.*

Indiana University of Pennsylvania



On-line version: www.iup.edu/grad-admission



2004-2005 Graduate Catalog
Indiana, Pennsylvania 15705-1081

IUP reserves the right to repeal, change, or amend the policies, regulations, and courses contained in this catalog at any time. Tuition and fees are also subject to change.

Press date: May, 2004

IUP's Civility Statement

As a university of different peoples and perspectives, IUP aspires to promote the growth of all people in their academic, professional, social, and personal lives. Students, faculty, and staff join together to create a community where people exchange ideas, listen to one another with consideration and respect, and are committed to fostering civility through university structures, policies, and procedures. We, as members of the university, strive to achieve the following individual commitments:

- ▶ To strengthen the university for academic success, I will act honestly, take responsibility for my behavior and continuous learning, and respect the freedom of others to express their views.
- ▶ To foster an environment for personal growth, I will honor and take care of my body, mind, and character. I will be helpful to others and respect their rights. I will discourage intolerance, hatred, and injustice and promote constructive resolution of conflict.
- ▶ To contribute to the future, I will strive for the betterment of the community: myself, my university, the nation, and the world.

IUP's Statement of Nondiscrimination

Indiana University of Pennsylvania is committed to equal opportunity and affirmative action for its students, employees, and applicants. The university is committed to providing equal educational and employment rights to all persons without regard to race, color, sex, religion, national origin, age, disability, sexual orientation, or veteran's status. Each member of the university community has a right to study and work in an environment free from any form of racial, ethnic, and sexual discrimination. In accordance with federal and state laws, the university will not tolerate racial or ethnic discrimination or discrimination on the basis of disability.

This policy is placed in this document in accordance with state and federal laws including Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972, Sections 503 and 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, and the Civil Rights Act of 1991 as well as all applicable federal and state executive orders. This policy extends to disabled veterans and veterans of the Vietnam era.

Please direct all general inquiries regarding equal opportunity and affirmative action to:

Assistant to the President for Social Equity
G4 Sutton Hall
1011 South Drive
Indiana University of Pennsylvania
Indiana, PA 15705
Telephone: 724-357-2431
Fax: 724-357-2685

TD: Telecommunications Device available in the:

Advising and Testing Center 724-357-4067 (V/TD)
(8-4:30, M-F)

Campus Police 724-357-2141 (TD) (24 hours)

IUP ensures compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act through the provision of program access accommodations. Please direct inquiries regarding accommodations for persons with disabilities to:

Student Concerns:

Director, Advising and Testing Center/
Disability Support Services
504 Coordinator
Pratt Hall, Room 216
201 Pratt Drive
Telephone: 724-357-4067

Employee Concerns:

Assistant to the President for Social Equity
G4 Sutton Hall
1011 South Drive
Indiana, PA 15705
Telephone: 724-357-2431

Specific inquiries regarding Title IX should be directed to:

Office of the Vice President for Student Affairs
Sutton Hall, Room 212
1011 South Drive
Indiana, PA 15705
Telephone: 724-357-4040
Fax: 724-357-4977

IUP's Affirmative Action Policy

Indiana University of Pennsylvania is committed to provide leadership in taking affirmative action to assure equal education and employment rights for all persons without regard to race, color, sex, religion, national origin, sexual orientation, age, disability, or veteran's status. We believe that respect for the individual in the academic community must not be abused. Harassment or disregard of a person based on any of these characteristics is particularly intolerable on the university campus.

The university will take affirmative action to insure the implementation of this policy in employment and admissions. This policy and the obligation to provide equal opportunity include the following commitment:

1. To recruit, hire, train, and promote persons for all job classifications and to admit and educate students, without regard to race, color, sex, religion, national origin, age, disability, or veteran's status.
2. To base decisions on selection, employment practices, employee utilization, job training, career mobility, promotion, program operation, and services provided in observance of the principles of equal employment opportunity and affirmative action.
3. To assure that all other personnel actions, such as compensation, benefits, transfers, furloughs, returns from furlough, agency-sponsored training, educational benefits, tuition assistance, and social and recreational programs, etc., are administered in keeping with the policy, strategies, objectives, goals, and timetables of the Equal Opportunity Act and the Affirmative Action Plan of the university.
4. To create and maintain a workplace and educational climate that is free from discrimination and harassment, including sexual harassment, of any employee or student.

5. To make every effort to increase employment and educational opportunities for qualified disabled applicants and employees with disabilities.
6. To assure that in offering employment or promotion to persons with disabilities, no reduction in compensation would result because of disability income or other benefits.
7. To assure that reasonable accommodations will be made for the physical disabilities of an applicant or student.

As an equal opportunity/affirmative action institution, the IUP Affirmative Action Plan is applicable to employees/enrollees of Indiana University of Pennsylvania under provisions of federal and state laws including Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972, Sections 503 and 04 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, and the Civil Rights Act of 1991, as well as all federal and state executive orders. This policy extends to disabled veterans and veterans of the Vietnam era.

The IUP Affirmative Action Plan supersedes the Affirmative Action Plan of 1995-96, the 1983 IUP Plan, the August 8, 1975, Affirmative Action Plan adopted by the Board of Trustees, and the March 31, 1982, Affirmative Action Plan submitted to the U.S. Office for Civil Rights.

Responsibility for the implementation of the IUP Affirmative Action Plan has been assigned to the Associate Vice President for Human Resources.

Any employee having suggestions, problems, or complaints with regard to Equal Employment or Educational Opportunity or Affirmative Action is encouraged to contact the Assistant to the President for Social Equity by calling 724-357-2431.

Students with suggestions, problems, or complaints should contact the Office of the Vice President for Student Affairs, 215 Sutton Hall, or by calling 724-357-4040.

Employees having inquiries regarding accommodations for persons with disabilities should contact the Assistant to the President for Social Equity, G-4 John Sutton Hall, or by calling 724-357-2431.

Students with inquiries regarding accommodations should contact the 504 Coordinator/ADA Student Concerns, 216 Pratt Hall, or by calling 724-357-4067.

Specific inquiries regarding Title IX should be directed to the Office of the Vice President for Student Affairs, 215 Sutton Hall or by calling 724-357-4040.

University Policy on Sexual Harassment (effective August 24, 2003)

Indiana University of Pennsylvania is committed to maintaining a learning and work environment that is free from sexual harassment. Acts of sexual harassment seriously undermine the atmosphere of trust and respect that is essential to a university community. Moreover, sexual harassment is legally prohibited and will not be tolerated. Sexual harassment is a form of sex discrimination that is prohibited under Title VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and the Pennsylvania Human Relations Act. It is imperative that all employees, students, and vendors comply with both the spirit and intent of federal, state, and local laws, government regulations, and court orders which relate to sexual

harassment. It is the purpose of this policy to define prohibited conduct and provide guidance on the procedures for addressing complaints.

All students, managers, administrators, faculty, staff, and vendors have a responsibility to adhere to the contents of this policy. Members of the university community are encouraged to report complaints of sexual harassment promptly in accordance with the Sexual Harassment Complaint Procedures set forth below. Any persons found to be in violation of this policy will be subject to disciplinary action up to and including expulsion for students and termination for employees.

IUP prohibits retaliatory action against persons filing an informal or formal complaint of sexual harassment or any person cooperating in the investigation of such a charge, as a complainant, respondent, witness or other participant. Nor will the university tolerate knowingly false charges of sexual harassment. Acts of retaliation or knowingly false charges shall constitute misconduct subject to disciplinary action up to and including expulsion for students and termination for employees.

To the extent possible, all complaints of sexual harassment shall be considered confidential, and only those persons who are necessary for the investigation and resolution of the complaints will be given information regarding the matter. As much as possible consistent with the university's legal obligations to protect the rights and security of its employees and students, the university will respect the confidentiality of both the complainant and the accused.

Questions about the Sexual Harassment Policy should be referred to the Assistant to the President for Social Equity, G-4 Sutton Hall, at 724-357-4874.

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The University

Location

IUP, the largest state-owned university in Pennsylvania's State System of Higher Education, is located in Indiana, Pennsylvania, a community of 30,000 about fifty-five miles northeast of Pittsburgh and thirty miles north of Johnstown. Situated in the Allegheny foothills, Indiana has a moderate climate conducive to study the year round and a wide variety of historical, cultural, and recreational facilities both immediately at hand and in neighboring population centers.

A University Education

As an institution of higher learning, IUP is committed to the preservation, expansion, and transmission of knowledge in all its forms. As a university within the Pennsylvania State System of Higher Education, IUP has primary responsibilities of providing high-quality education at a reasonable cost and assessing and responding to the higher educational needs of the commonwealth: as a university, IUP has the responsibility of being concerned with the needs of the nation as a whole and those of the international community at large so far as resources allow.

At the graduate level, IUP is committed to encouraging intellectual excellence, research, and scholarship; to providing in-depth study in each student's special field; and to stimulating continued cultural and intellectual growth for faculty and students.

The general mission of doctoral programs is to encourage the pursuit of knowledge through intellectual inquiry. Doctoral offerings will be primarily professional with emphasis on business, education, public policy studies, human services, social sciences, and applied science and technology, while allowing for distinctive, theoretical programs in the arts and sciences. Doctoral programs reflect the special role of IUP in the Pennsylvania State System of Higher Education by meeting, in particular, identified state, regional, national, and international needs. IUP is further committed to meeting these needs by offering cooperative programs with other State System institutions. Doctoral programs will be offered in areas of need and when institutional resources allow.

The mission of the master's and specialist/certificate levels is to sustain and to develop programs of similarly high quality while, in general, emphasizing more applicable professional skills. Master's and specialist/certificate programs should be based on institutional strengths and should, in addition to other goals, address state and regional needs.

IUP is committed to conducting and disseminating basic and applied research and expects and encourages such scholarly activity in all forms.

IUP provides continuing education for adults through conferences, workshops, short courses, training programs, and degree programs for part-time students. The university strives to meet the cultural and professional needs of the community through its outreach programs and public service activities.

History of the University

IUP has witnessed a history rich in accomplishment. Since 1875, when it served only 225 students in a single building, it has experienced continuous growth, becoming Pennsylvania's fifth largest university. The current enrollment is over thirteen thousand, with students from thirty-six states and over fifty-five countries.

The first building, named John Sutton Hall in honor of the first president of the Board of Trustees, was opened for students on May 17, 1875.

In April, 1920, control and ownership of the school passed to the Commonwealth of Pennsylvania. In May, 1927, by authority of the General Assembly, the State Normal School became a college, with the right to grant degrees. The name was then changed to the State Teachers College at Indiana, Pennsylvania. In 1959, the legislature approved a change of name to Indiana State College; in the 1960s there followed a rapid growth in the liberal arts program.

In December, 1965, Indiana was redesignated Indiana University of Pennsylvania and given the authority to expand its curriculum and to grant degrees at the master's level. At this time the first doctoral program was initiated.

Recently, IUP was recognized in the Princeton Review's 2004 edition of *The Best 351 Colleges* and in *Careers and Colleges* magazine. The Robert E. Cook Honors College was featured in the 2000 publication *Cool Colleges* by Donald Asher.

Graduate Education at IUP

Graduate education was inaugurated at IUP in September, 1957. The university currently offers programs leading to the Master of Arts, Master of Business Administration, Master of Education, Master of Fine Arts, Master of Science, Doctor of Psychology, Doctor of Education, and Doctor of Philosophy degrees. Nondegree programs leading to certification in various teaching and school service fields are also available.

The university is classified as Doctoral Research Intensive by the Carnegie Foundation for the Advancement of Teaching. This classification places IUP in the company of institutions that provide a full range of baccalaureate programs and have a commitment to graduate education through the doctorate degree, awarding at least twenty doctoral degrees annually.

In all graduate programs the objectives are to (a) encourage excellence and scholarship; (b) provide depth in the student's special field; and (c) stimulate enthusiasm for continued cultural and professional growth on the part of the student.

The School of Graduate Studies and Research staff is assisted in its daily functioning by a) the University-Wide Graduate Committee, a standing committee of the University Senate concerned with graduate program curriculum and policy matters; b) the Graduate Student Assembly, an elected graduate student body representative of all campus academic departments offering graduate programs; and c) the chairpersons and coordinators of departments offering graduate programs.

Accreditation

IUP is accredited by the Middle States Association of Colleges and Secondary Schools, the National Council for Accreditation of Teacher Education, the Pennsylvania Department of Education, the National Association of Schools of Music for its music curriculum, National Association of Schools of Theatre, American Psychological Association for its psychology curriculum, the National Association of School Psychologists for its school psychology curriculum, the Educational Standards Board of the American Speech-Language-Hearing Association for its speech language curriculum, the Council for Exceptional Children in Education of Exceptional Persons, the Accreditation Board for Engineering and Technology for its safety sciences curriculum, the Commission on Collegiate Nursing Education for its nursing curriculum, the Commission on Accreditation for Dietetic Education of the American Dietetic Association for its internship program, and the Association to Advance Collegiate Schools of Business—International for its business curriculum. The university is a member of the Council of Graduate Schools in the United States and of the Northeast and the Pennsylvania Association of Graduate Schools.

Buildings and Grounds

The Division of Administration and Finance at Indiana University of Pennsylvania provides internal and external constituents of the university with the highest-quality services in the most supportive and cost-effective manner. In contributing towards the fulfillment of IUP's mission of teaching, research, and public service, the division is responsible for the development, stewardship, enhancement, integrity, and stability of the university's fiscal, human, and physical resources.

Major responsibilities of the division are organized and operated from the five distinct departments of Facilities Management, Fiscal Affairs, Human Resources, University Police/Public Safety, and Printing Center. The physical campus consists of 341 acres and 75 major buildings on the main campus in Indiana along with branch campuses located in Punxsutawney and Kittanning.

In February, 1996, the IUP Council of Trustees approved the Long-Range Campus Development Plan for the university. Since that time, the division has been developing, directing, and coordinating the necessary plans to ensure that the physical plant and facilities are maintained and expanded in total support of IUP's academic goals. With the full support of the university's senior administration, the Long-Range Campus Development Plan, including effective and orderly financial plans for implementing proposed changes in facilities, continues to guide the university's expansion.

Inclement Weather Policy

Indiana University of Pennsylvania is committed to the safety and security of its students, faculty, staff, and visitors. Therefore, the decision as to whether the university should close or remain open during periods of adverse weather conditions is based on the overall concern for the university community. In general, however, IUP's practice will be to remain open and to conduct classes as usual during periods of inclement weather.

Closure of the university: Should adverse weather conditions arise or be anticipated that would make it inadvisable to operate the university on a given day, the president may, at his or her discretion, close the institution (i.e., cancel all classes and on-campus activities at all campuses). In the event of either a full- or partial-day closure, notification will be provided to the following radio and television stations: WDAD Radio (Indiana), WCCS Radio (Homer City), WJAC-TV (Johnstown), KDKA-TV and KDKA Radio-1020 AM (Pittsburgh), and WTAE-TV and WTAE Radio-1250 AM (Pittsburgh). Information may also be obtained by calling 724-357-7538.

Cancellation of IUP-Sponsored Activities or Events in the Absence of University Closure: Should adverse weather conditions arise or be anticipated that would make it inadvisable to conduct an IUP-sponsored activity or event on a date when the university otherwise remains open, the sponsoring unit/department has the option to cancel or postpone the function. The sponsoring unit/department also assumes responsibility for notifying event participants of the cancellation/postponement in an appropriate and timely manner.

Questions regarding the Inclement Weather Policy may be directed to the vice president for Administration and Finance, 235 Sutton Hall, IUP. Policy implemented March 6, 1995.

IUP Libraries and Media Services

The IUP Libraries consist of the Stapleton/Stabley central facility, Cogswell Music Library, and campus libraries in Kittanning and Punxsutawney. Collectively, the University Libraries contain extensive print and nonprint collections and a growing collection of full-text on-line resources. These on-line resources include full text journals, dissertations, and books. IUP is a designated Select Depository for federal and state publications with print and electronic resources. A wide range of resources and services is available to support teaching and research. Searching the on-line catalog PILOT through the home page at www.iup.edu/library provides current information about the libraries' collections.

Librarians are available to help with becoming familiar with resources and to assist with research. The Reference Desk is open until 10:00 p.m. Sunday through Thursday and 5:00 p.m. on Friday and Saturday. Individual appointments may be made by calling the Reference Desk at 724-357-3006. The library also offers chat and e-mail reference services, accessed through the web page under "Library Services." For those teaching courses, librarians offer sessions about library resources and research to students as part of the courses.

If IUP does not own the books needed for your research, a variety of access points are available for obtaining this material at no cost to users. U-Borrow allows users to request books from any of the State System libraries (including the State Library in Harrisburg); books will be delivered to the library of choice. The books may be returned to any of the libraries. Access to U-Borrow is through PILOT, the on-line catalogue. Books can also be requested through PALCI EZ-Borrow, which searches Pennsylvania, New Jersey, and West Virginia university libraries, accessed through the library web page under "Books and More." Books are delivered and returned to Stapleton Library. If these two options do not prove successful, users may request a search through ILLIAD; the form is on the library web page under "Books and More." Journal articles may be requested the same way. Books may also be borrowed from the University of Pittsburgh, but those same books may be requested through PALCI for a longer loan period.

The library provides a comfortable environment with space for individual and group study. Stapleton Library has a limited number of shared and individual locked carrels for faculty, doctoral, and master's students working on research. Users may apply for one of these locked study carrels during the first two weeks of each semester at the Circulation Desk. Successful applicants pay a \$20 refundable key deposit.

Java City Coffee Bar is on the first floor of Stapleton, adjacent to the collection of popular fiction and nonfiction books. The food and drinks policy states that all drinks need a protective cover and only Java City food may be eaten in the library.

Room 201 in Stapleton Library has been reserved for use by graduate students. It provides a quiet study environment and two computers. Keys for the room may be obtained by paying a \$20 refundable deposit.

A public computer lab with twenty-nine computers is located in Stapleton. The lab is available for public use at times when it is not reserved for library instruction. There are also more than fifty computers throughout the library. Wireless laptops for in-library use can be checked out at the Circulation Desk. The wireless network allows users to connect laptops to the university network. There are also three network ports available for patron laptop use.

Stapleton Library is open ninety-two hours per week when classes are in session. Hours are:

Monday-Thursday7:45 a.m.-11:45 p.m.
Friday7:45 a.m.-7:00 p.m.
Saturday11:00 a.m.-5:00 p.m.
Sunday1:00 p.m.-11:45 p.m.

There are extended hours during finals week.

A current library hours schedule may be obtained by calling 724-357-2197.

The Media Services Department (Stabley 103) produces and duplicates media material. You can also borrow a variety of electronic equipment for your projects—digital cameras, camcorders, digital projectors, etc. It is open 8:00 a.m. to 4:30 p.m., Monday through Friday. Media Resources (Stabley second floor) has an extensive collection of videocassettes, DVDs, and CDs. It closes at 10:00 p.m. Sunday through Thursday and at 7:00 p.m. on Friday. Saturday hours are noon to 5:00 p.m. Four multimedia pods with the latest software and powerful hardware are available for reserve use during Media Resources' hours.

Book loans are made for ninety days and can be renewed if a "hold" request has not been placed. You can renew your books on line through PILOT up to three times. If another person recalls a book, you have to bring it back within the specified period on the recall notice. Journals do not circulate outside the building.

Journals, newspapers, and microform serials are located on the ground floor of Stapleton.

University Senate

Purpose

The purpose of the University Senate is to provide a formal means through which the student body, faculty, and administration, working as a unified group, shall have a representative share in the governance of the university.

The University Senate approves all curricular matters before implementation and can study any issue of university governance and make recommendations to the president and Council of Trustees.

Nothing relating to the organization and administration of the University Senate shall be construed so as to limit the authority of the Council of Trustees or the president of the university with respect to the administration of the university as prescribed by law.

Composition and Elective Procedures

The University Senate shall consist of a number of faculty double the number of departments of the university, an administrative segment one-third the size of the faculty segment, and a student segment one-half the size of the faculty segment. The Senate shall also include one Alumni Association representative and four representatives from staff, Faculty, staff, and administrative

members must be employees in good standing at the time of election or appointment and during terms of service, and students must be enrolled and in good standing at the time of election or appointment and during terms of service. "Student" refers to both the undergraduate and graduate student bodies. The student segment shall consist of ten times as many undergraduate students as graduate students, each delegation to be elected by its representative student body. Undergraduate students shall be elected under the auspices of the recognized student association (as defined by Pennsylvania State Act 1982-188) and graduate students through elections arranged by their comparable body. In both cases, the officiating body shall call for and accept voluntary nominations for election to the Senate. Student members of the University Senate serve on most of the Senate committees.

Computing Services

8 All IUP students are provided with an e-mail account and a network account, including provisions for a personal web site. The network account includes personal home directory space that can be accessed from any campus lab or the Internet. The Student Computing Help Desk can address student questions concerning e-mail, web pages, NT network usage, etc. Students may contact the help desk via phone (724-357-2198) or e-mail (Student-HelpDesk@iup.edu) and may access the web page at www.iup.edu/ats/sts/; this page includes several sections which might help students to answer their own questions. Students are also welcome to visit the Student Computing Help Desk at Gordon Hall, room 139, for personal assistance with their computing problems. The Student Computing Help Desk is open from 10 a.m. until 6 p.m. weekdays.

The university's computing infrastructure consists of an extensive Microsoft Windows network and several Unix systems. On-campus access to the IUP network is provided primarily through Ethernet connections utilizing the campus fiber optic backbone. Off-campus access is available via the Internet. IUP maintains a major connection to the Internet, including access to Internet2 and the State System of Higher Education network. In addition, many courses use common network space and distance education tools to support student collaboration and learning.

Student access to computing is provided, for the most part, through the public computing laboratories. The primary public labs are strategically placed around campus to maximize their availability and impact. Several departments maintain computing facilities that are of a focused nature and which are intended to support specific programs. These include several specialized networks to address particular needs.

Academic computing support is provided by technical staff assigned to each college. The college staffs provide computational support for undergraduate and graduate students and for faculty and student research.

Through implementation of its strategic computing plan, which is part of the university long-range planning process, the university is committed to providing the level of computing and information technology necessary for a modern institution of higher education. Guidance in this area is provided by both the Academic Computing Policy Advisory Committee and the Administrative Computing Oversight Committee.

Journal Publications

Scholarly journals published at IUP include the following: *Advances in Competitiveness Research*; *The Benjamin Mays Monograph Series*; *Competitiveness Review*; *Criminal Justice Policy Review*; *Hispanic Journal*; *International Journal of Commerce and Management*; *Journal of Global Competitiveness*; *Journal of Small Business Strategy*; *PAACE Journal of Lifelong Learning*; *Studies in the Humanities*; *The Talking Drum*; and *Works and Days: Essays in the Socio-Historical Dimensions of Literature and the Arts*.

Foundation for IUP

The Foundation for IUP is a nonprofit corporation established in 1967 to work with the university to develop and maintain private support for IUP. It is governed by a twenty-four-member Board of Directors. The university president and vice president for Institutional Advancement/Executive Director, Foundation for IUP sit on the board as ex officio members. Funds raised through contributions from alumni, friends, faculty and staff, corporations, and foundations are used to support scholarships, academic and athletic enrichment, departmental programs, and other priority needs of the university. The assets of the Foundation for IUP now exceed \$37 million. The offices of the Foundation for IUP are in John Sutton Hall.

IUP Centers and Institutes

Centers and institutes serve a variety of functions. Each center and institute is unique in its focus and is created to meet a specifically identified need. Centers provide an opportunity for faculty members to utilize their expertise through consultation, technical assistance, and research-related activities. Centers and institutes provide excellent opportunities for students to learn, to demonstrate their knowledge and skills, and to become involved in meaningful projects in the community. Centers and institutes strengthen the research and public service missions of the university and, therefore, enhance the quality of education.

Center/Institute	Program Director	Telephone
American Language Institute (ALI)	Dan Tannacito	724-357-2402 6944
Applied Media and Simulation Games Center (AMSGC)		724-357-5967
Applied Research Lab (ARL)	Tom Short	724-357-4530
Archaeological Services	Beverly Chiarulli	724-357-7623
Center for Applied Psychology (CAP)	Kimberely J. Husenits	724-357-6228
	Beverly Goodwin	
Center for E-Commerce and Technology Support	Krish Krishnan	724-357-2522
	Raj Murthy	
Center for Economic Education	James J. Jozefowicz	724-357-4774
	Stephanie M. Jozefowicz	
Center for Educational and Program Evaluation (CEPE)	Mary Ann Rafoth	724-357-2316 7670
Center for Family Business	Cindy Iannarelli	724-357-2106
Center for Film Studies	Thomas J. Slater	724-357-4935
Center for Health Promotion and Cardiac Disease Prevention	Robert E. Alman II	724-357-4410
Center for Middle Eastern Studies (CMES)	Gawdat Bahgat	724-357-2290 2489
Center for Research in Criminology (CRC)	Rosemary Gido	724-357-2720
Center for Research in Written Communication and Translation	Malcolm Hayward	724-357-2322
Center for Statistics Education in Pennsylvania at IUP	Larry Feldman	724-357-4767
	Francisco Alarcon	724-357-2206
Center for the Study of Religion in Pennsylvania (CSRP)	Stuart Chandler	724-357-5612
Center for Teaching Excellence	Diane Klein	724-357-7800
	John Woolcock	
Center for Video Technology (CVT)	David Lind	724-357-7517
Center for Vocational Personnel Preparation	Donald Gamble	724-357-4434
	Karen Rivosecchi	
Child Study Center (CSC)	Victoria Damiani	724-357-3783 2445
Community Nutrition Services (CNS)	Susan S. Dahlheimer	724-357-4357
Criminal Justice Training Center	Gary M. Welsh	724-357-3987
Government Contracting Assistance Program (GCAP)	Ron Moreau	724-357-7824
Highway Safety Center	Allen Robinson	724-357-3975
Instructional Design Center (IDC)	Glenn Himes	724-357-7726
Intercollegiate Athletic Institute for Sports Camps	Frank J. Condino	724-357-2757
Literacy Center	Ann D. Creany	724-357-3293
Management Services Group (MSG)	Robert Boldin	724-357-2179
	Thomas Falcone	
Mid-Atlantic Addiction Training Institute (MAATI)	Robert Ackerman	724-357-4405
	Edward Gondolf	
National Emergency and Disaster Information Center (NEDIC)	Daniel J. Yuhas	724-357-2568
National Environmental Education and Training Center (NEETC)	Robert Friday	724-357-4745
National Institute for Correctional Education (NICE)	Sherwood "Chris" Zimmerman	724-357-3159
Pennsylvania Center for the Study of Labor Relations	Charles McClester	724-357-4443
	Cynthia Spielman	
Pennsylvania/OSHA Consultation Program	John Engler	800-382-1241
Small Business Development Center (SBDC)	Tony Palamone	724-357-7915
Small Business Incubator	Robert Boldin	724-357-2179
Small Business Institute (SBI)	Stephen Osborne	724-357-5946
	Prashanth Nagendra Bharadwaj	
	Joette Wisniewski	
Software Development Center	H. Edward Donley	724-357-3792
Spatial Sciences Research Center (SSRC)	Robert Wilson	724-357-2251
Speech and Hearing Clinic	Karen Stein	724-357-2451
Teacher Education Center for Science, Mathematics, and Technology	Terry L. Peard	724-357-7549
		800-487-4899
Translation Services (TS)	Victor S. Drescher	724-357-7769
Workforce and Economic Development Program	Robin A. Gorman	724-357-4727

10 Student Programs and Services

University Testing Services

IUP is formally recognized as an official testing site by several national testing agencies. These include American College Testing, Educational Testing Service, Psychological Corporation, Law School Admissions Council, and College Board. The Office of Career Services sponsors IUP's University Testing Services as part of its comprehensive mission to assist students in finding appropriate occupations and professional and graduate programs. In addition to paper-and-pencil testing, IUP now operates a computer-based testing (CBT) facility located in 311 Pratt Hall. Tests available in the CBT format include the GRE General Examination, GMAT, CLEP, TOEFL, and Praxis I (PPST). Examinees may schedule appointments for tests by calling 724-357-4994. Pre-registration is required for all tests. The following are of particular interest to potential students.

The *Graduate Record Examination* (GRE) General Test is administered only in a computer-adaptive format. The subject examinations are offered in a paper-and-pencil format only in November, December, and April. Information and registration booklets are available from the School of Graduate Studies and Research or from the Office of Career Services. Registration forms for the subject tests must be sent directly to ETS in Princeton, New Jersey. On-line registration is also available.

The *Miller Analogies Test* (MAT) is administered monthly by University Testing Services. To obtain registration materials, contact the Office of Career Services at 724-357-2235. All School of Graduate Studies and Research applicants with a GPA below 2.6 must take the MAT.

The *Graduate Management Admission Test* (GMAT) is administered only in a computer-adaptive format. Registration booklets are available from the M.B.A. coordinator in the Eberly College of Business and Information Technology, from the Office of Career Services, or from the School of Graduate Studies and Research. On-line registration is available.

The *Praxis Series* is administered on six nationally established dates (September, November, January, March, April, and June). These tests are required for teacher certification in Pennsylvania and many other states. The PPST (Praxis I) is available in the CBT format or the paper-and-pencil format. Examinees who

wish to test on the computer may call 724-357-4994 to schedule an appointment.

The *Test of English as a Foreign Language* (TOEFL) is exclusively computer based. Students whose native language is not English may be required to take this examination. Check with the School of Graduate Studies and Research for more information on this requirement.

Law School Admission Test (LSAT) information is available at Career Services or by contacting the director of the Pre-Law Program for the College of Humanities and Social Sciences. Information on the Medical College Admission Test (MCAT) is available through the dean of the College of Natural Sciences and Mathematics.

Arrangements can be made in advance for the administration of tests adapted to persons with visual, auditory, learning, or physical disabilities by contacting the individual testing program.

University Testing Services is a center for the administration of tests and neither makes testing requirements nor offers interpretations of testing results. Commercial "How to Prepare for..." materials are available in the Co-op Store and other local bookstores. Questions regarding test requirements and required scores should be addressed to the School of Graduate Studies and Research or to the graduate institution(s) to which the student is applying. Questions regarding specific registration matters and test agency information and registration materials may be directed to the Office of Career Services, 302 Pratt Hall, 724-357-2235, or to the CBT Center, 311 Pratt Hall, 724-357-4994.

Career Services

The Office of Career Services, 302 Pratt Hall, is open to all IUP graduate students and alumni. Resources are available to assist students with their personal career plans, including resume-writing, interviewing skills, and job-hunting techniques. Individual appointments with career counselors are recommended.

Services include on-campus interviews, job fairs, on-line job opportunities, an extensive Career Library, and programs that assist students and alumni in networking. Visit the Career Services Web page at www.iup.edu/career.

Publications

The Penn, IUP's campus newspaper, is published three times a week during the fall and spring semesters and once a week during summer sessions by students wishing to gain practical newspaper experience. Interested students are advised to attend organizational meetings held at the beginning of each semester.

The Source (IUP student handbook) is distributed to all students, graduate and undergraduate, in an on-line version. It includes rules and regulations, extracurricular programs, and general information of interest to students.

Thesis/Dissertation Manual is available in the School of Graduate Studies and Research to all graduate students and is free of charge. It includes guidelines, deadlines, and forms for students preparing theses or dissertations.

Services for Students with Disabilities

Disability Support Services (a unit of the Advising and Testing Center) is the primary agent for the provision of access for IUP students with documented physical, learning, or other disabilities. Faculty and staff within the office serve to ensure IUP's program access compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. Students with disabilities are urged to register with the office. Services provided include, but are not limited to: early registration (when the university needs to provide a service such as a classroom move or assisting with recorded books); equipment loan; test proctoring and reading; note taking; recording of books; NCR paper; liaison with faculty, OVR, and BVS; braille; and general advising and counseling. Further information may be obtained in 216 Pratt Hall, by calling 724-357-4067 (V/TD), by e-mailing Advising-Testing@iup.edu, or on the website www.iup.edu/advisingtesting (use the Disability Support Services link).

Speech and Hearing Clinic

The Speech and Hearing Clinic, located in Davis Hall, offers diagnosis of speech and language problems, hearing evaluations, and a regular program of therapy. The clinic also administers the speech and hearing clearance for teacher education programs.

These services are made available without charge to students regularly enrolled at the university to give the necessary assistance to alleviate deficiencies which would interfere with successful performance and progress in the university and in future work. Students are encouraged to use the facilities provided for them and may of their own initiative come to the clinic for help, or they may be referred by any faculty member or university official.

Housing for Graduate Students

IUP provides both residence hall and apartment housing suitable for single graduate students. One floor of Campus Towers is reserved for graduate-level students and consists of two-person, one-bedroom furnished apartments. Cable TV, all utilities, as well as local telephone hookup and monthly service fees are included in the apartment fee. IUP will assign roommates to students who do not self-select roommates.

Single-occupancy residence hall rooms are available in McCarthy Hall on a first-come basis. There is no housing on campus that

meets the requirements for family housing. Information about privately owned apartment units suitable for families is available from the Office of Housing and Residence Life.

Information may be obtained Monday through Friday from 8:00 a.m. to 5:00 p.m. at 724-357-2696, by fax at 724-357-5762, or by e-mail at iup-ohrl@iup.edu. Visit www.iup.edu/house for more information about the housing program.

Dining on Campus

- Foster Dining Hall is a traditional all-you-care-to-eat dining location with a variety of stations. A Munch Box in the lobby of Foster Dining Hall provides a boxed lunch or a quick snack to go. (accepts meal plans, cash, Flex dollars)
- HUB Rock II, located in the Hadley Union Building, features a wide variety of foods such as *Bene Pizza*, *Grille Works*, *Create Your Own Pasta*, *Grab 'n' Go*, *Kettle Classics*, *Bagel Works*, and *Chick-fil-A*. (all accept meal exchange [except Chick-fil-A], cash, Flex dollars, smart chip, MAC/debit)
- Folger food court features *Burger King*, *PanGeos Pasta Kitchen*, *Avalanche Ice Cream Bar*, *Freshens*, *Montague's Deli*, and the *Home Zone*. (accepts cash, Flex dollars, smart chip, MAC/debit)
- *Java City* (Roasters of Fine Coffee). Kiosks are located in the Co-op Store, Library building, and the lobby of Foster Dining Hall. (accepts cash, Flex dollars)
- Eberly Kiosk is a mini food court in the lobby of the Eberly School of Business building. (accepts cash, Flex dollars)
- The Oak Room, open for lunch only, provides a luncheon buffet—hot specialties, soup, sandwiches, and desserts. (accepts cash, Flex dollars)

The 2004-05 Meal Plan choices (estimated pricing at the time of printing) for students living in residence halls:

- AF—19 meals per week plus \$100 Flex dollars \$965
- BF—any 14 meals per week plus \$150 Flex dollars . . . \$964
- B—any 14 meals per week \$813
- CF—any 165 meals per semester plus \$150 Flex dollars \$963
- DF—any 10 meals per week plus \$200 Flex dollars . . . \$979

Off-campus students, or those living in an on-campus apartment, can choose any of the meal plans listed above or the following:

- EF—any 75 meals per semester, plus \$150 Flex dollars \$635
- Flex plan \$50 (initial deposit)

Flex dollars work on the same principle as a bank debit card. Each time a food purchase is made, the total cost of the meal is subtracted from the dollar balance in the account. Additional funds can be added to a Flex dollars account at any time.

Visit the IUP Dining web page at www.iup.edu/house/dining.

Automobiles

Students, faculty, and staff members who park vehicles in campus parking areas must register their vehicles with the University Police Office. Resident students will be issued parking permits for the following reasons: medical necessity, student teaching, or other academic need for a vehicle. A written application must be

submitted to and approved by the Parking Authority Review Board. Parking will be available, for a fee, to resident students not meeting the aforementioned criteria to park in the Robertshaw parking lot. Reserved parking spaces may be purchased in the new parking garage. The University Police Office is located in the Administrative Annex, 910 Grant Street, and can be contacted for information on parking; copies of the current rules and regulations and other parking information can be found at www.iup.edu/police.

Spiritual Life

The IUP Interfaith Council (IFC) is an interdenominational body in which graduate and undergraduate students of all faiths are welcomed and included as equal partners. The IFC recognizes and affirms the spiritual part of every human being. The IFC is composed of campus ministers, advisors to recognized campus religious organizations, and representatives of Indiana churches who have chosen to affiliate. Contact kuckuck@iup.edu for further information, including referral to a specific faith group.

University Health Service (Pechan Health Center)

The mandatory student health fee is assessed each fall and spring semester based upon enrollment status at the university. Graduate students and part-time undergraduates are assessed Health Fee B. Full-time undergraduates are assessed Health Fee A. Clinical care at the health service is provided by board-certified physicians, certified registered nurse practitioners, and registered nurses.

Fee A provides access to the clinical services provided at Pechan Health Center as well as community health programs. (For those students who have paid "Fee A," there may be additional visit and product fees for clinical products and services.)

Health Fee B, mandatory for full-time graduate students and part-time undergraduate students, covers the cost of community health programs. Students who have paid "Fee B" can use the self-care cold center, which provides access to low cost, over-the-counter cold remedies.

In the summer there is no mandatory health fee. Fees apply only if a student uses the health service.

Students enrolled in Health Fee B or who are not required to pay a health fee are welcome to upgrade their service to Fee A at any time by sending an e-mail to health-inquiry@iup.edu or by stopping by the Health Center on the corner of Maple and Pratt. Students may also pay a per-visit fee for clinical care. Spouses of IUP students may enroll in either Fee A or Fee B or may pay a per-visit fee.

Services provided outside of Pechan Health Center such as laboratory work, x-rays, and referrals to outside medical providers/specialists are not included in the health fee. Additional information about fees and services can be found at the health center Web site www.iup.edu/healthcenter. For students needing health care at locations off campus, the Health Center has a van to transport students to local medical facilities for scheduled appointments within three miles of campus.

For emergency care, the local emergency room is available (Indiana Regional Medical Center). Emergency Room services and all other services provided outside of Pechan Health Center are not included in the student health fee. IUP has a contract

with a local ambulance service. IUP students who need an ambulance, and have paid Fee A, will not be required to pay out-of-pocket expenses for ambulance service.

The health fee is not an insurance plan. Students are encouraged to have a health insurance plan. All graduate students enrolled for one or more credits or undergraduates enrolled for six or more credits are eligible to purchase the insurance plan offered by Consolidated Health Plans, Inc. More information is available by contacting health-inquiry@iup.edu or by calling Pechan Health Center at 724-357-6475.

International students at IUP on J or F visas are required to have health insurance. Refer to www.iup.edu/healthcenter for specific insurance requirements and deadlines for submitting insurance fee waiver forms.

The health fee is mandatory. Waivers will be considered only for students living more than fifty miles from campus or for students who are on internships or student teaching assignments at a site more than twenty-five miles from campus. A form for submitting a waiver is available using URSA.

Center for Counseling and Psychological Services

The counseling services department is composed of faculty psychologists and advanced graduate trainees from the departments of Psychology and Counseling. These professionals facilitate the personal and emotional growth of students by offering prevention, confidential intervention, and consultation services on an individual and small-group basis. Beyond the Health Services fee, additional fees are not charged for counseling services.

Office of Student Development

The Office of Student Development is staffed by a faculty member and a graduate assistant. Together they provide the following programs: summer orientation for parents of incoming freshmen, orientation for entering students prior to the beginning of fall and spring semester classes. The director teaches ADVT170, Career Exploration, and serves as the liaison for the Interfaith Council.

Guidelines for Student Conduct

IUP is an academic community within the society at large. As a community, it has formulated a code of standards and expectations which the university considers to be consistent with its purpose as an educational institution. IUP reaffirms the principle of students' rights coupled with an acceptance of full responsibility for one's behavior and the resulting consequences. As a member of the academic community and of the larger society, a student retains the rights, protections, guarantees, and responsibilities which are held by all citizens.

The judicial system of IUP exists to review all alleged academic and behavioral violations as well as violations of federal, state, and local ordinances. The primary intent of this educational system is to promote a positive behavioral change in students while also protecting the rights and promoting the safety and security of the members of the university community. The system holds students accountable for their actions when regulations or statutes have been violated. A complete statement of regulations is available in the student handbook at www.iup.edu/studentconduct/source.

Student Cooperative Association

The Student Cooperative Association has played a broad role in the cocurricular life of the university for more than sixty years. All students, faculty, and staff who pay the Activity Fee are members of the association. Virtually all campuswide activities outside the instructional program are sponsored wholly or in part by the association.

The Activity Fee is the chief source of income for the association's programs. The student's I-Card will admit him/her free of charge or at a reduced fee to university social, cultural, and athletic events. Other income for the association comes from the profits of the Co-op Store and from events sponsored by the association.

The Student Cooperative Association owns and operates the Hadley Union Building (HUB) complex and the Co-op Recreational Park. The HUB, built by association members through the Activity Fee, offers many facilities and programs for use by the university community. Some of these include the Co-op Store, Fitness Center, Computer Lounges, Food Court, Meeting Rooms, and two large rooms that will accommodate several hundred people each. The Co-op Recreational Park comprises 280 acres of wooded hillsides and fields. Located at the site are a lodge building that will accommodate groups of up to two hundred people, a ski hut, an eighteen-station exercise course, cross-country skiing, hiking and biking trails, picnic shelter, archery range, golf practice range, two ball fields, and a batting cage.

Cocurricular Learning Abounds at IUP

Learning is not just an academic experience centered on textbooks and classes. It is a lifetime process of interacting with others and participating in surrounding opportunities. Participating in the arts, becoming involved in civic activities, going to a lecture, or being active in an organization have a lot to do with academic success and future happiness and well-being.

Students are encouraged to experiment by attending programs that are both familiar and new to them. With the opportunity to choose from such a wide variety of events and student organizations, students can broaden their perspectives on life and develop new appreciation for various forms of art, entertainment, and leadership. While students cannot involve themselves in all that is available, a carefully planned level of participation can lead to a truly enriched university experience.

Graduate Student Assembly

Each IUP department offering a graduate program is required to establish a graduate committee and is urged, but not required, to form an association for its graduate students. On a universitywide basis, the Graduate Student Assembly (GSA) is the graduate students' organization. The GSA is composed of two representatives (and frequently an alternate) elected by the full-time and part-time graduate students of the department. It serves graduate students through voting representation on the Senate Graduate Committee and the University Senate, by making recommendations about graduate student affairs to the Graduate Committee and/or the dean of the School of Graduate Studies and Research, and by working through other university committees and channels to improve the social, intellectual, and cultural life of graduate students. All graduate students are encouraged and welcome to participate in the GSA. GSA website: www.coop.iup.edu/gsa. The GSA office is located in Room 220 of the HUB. Office hours are MWF 9-11 a.m. (subject to change); telephone 724-357-3180.

14 Admission

Requirements

1. An applicant must have a bachelor's degree from a regionally accredited college or university.
2. The applicant's cumulative undergraduate grade point average must be at least a 2.6 if the bachelor's degree was earned within the past five years. If the bachelor's degree is older than five years, the minimum cumulative grade point average required is 2.4. Applicants whose cumulative undergraduate grade point average does not meet minimum standards will be required to submit a Miller Analogies Test (MAT) score of not less than 47.
3. Graduate Record Examination (GRE) scores or Graduate Management Admissions Test (GMAT) scores must be submitted prior to admission as required by individual departments. Please refer to the section on Examination Requirements for further details concerning test requirements.

Procedures

1. Each applicant must file a completed application form. All application forms are contained in the application packet received from the School of Graduate Studies and Research or may also be found on the website www.iup.edu/graduate. (The admissions packets sent to Doctor of Psychology and M.B.A. Executive Track applicants differ somewhat from the regular packet.)
2. The application should be accompanied by official transcripts from each undergraduate and graduate institution attended, regardless of whether or not a degree was earned. These transcripts must be sealed by the registrar and remain sealed until their arrival at the School of Graduate Studies and Research. If the course(s) or the degree was completed at IUP, the applicant is not required to secure the transcript.
3. Two letters of recommendation are required of each applicant.

4. A goal statement, dated and signed, is an important component of the application process, as it reflects the applicant's career and academic goals.
5. A nonrefundable application fee in the amount of \$30 must accompany the application. The application cannot be processed without this fee. Please pay by check (indicating your Social Security number), and make the check payable to IUP.

Admission Classifications

Applicants for admission to the School of Graduate Studies and Research are notified of their admission status by the dean of the School of Graduate Studies and Research prior to the beginning of the term of planned study. Applications must be complete before an admissions decision can be determined. Admissions classifications are as follows:

1. **Precandidacy Status.** Granted to an applicant who plans to work toward a graduate degree and whose application materials meet admission requirements as set forth by the School of Graduate Studies and Research and the academic department.
2. **Certification Credits.** Credits taken under the Certification category are not intended to lead to a degree program. This category is designed to assist teachers pursuing Certification credits only.
3. **Special Status.** Awarded to an applicant who does not intend to pursue a graduate degree but only to enroll in graduate classes for which he or she is qualified. Students granted Special Status admission who wish at a later time to pursue a graduate degree need to request reclassification before the completion of twelve credits. Only under exceptional circumstances will courses taken under Special Status be applicable toward the degree.

4. **One Course Only.** It is possible to take a graduate course by registering and paying for it after filing a One Course Only application. Full application to the School of Graduate Studies and Research is not required. One Course Only forms are available from the School of Graduate Studies and Research office, Stright 101, 210 South Tenth Street. Students who use this form to take their first course must apply and be admitted to the School of Graduate Studies and Research before taking additional courses.
5. **Certificate of Recognition (COR) Admission.** This is a nondegree status. Applicants must meet all the admission requirements as set forth by the School of Graduate Studies and Research and the department offering the COR.
6. **Off-Campus Program Admission.** Admission standards and processes for off-campus programs are the same as for those offered on the IUP campus. The sole exception is that students admitted under the "One Course Only" category may take two courses in their initial semester if applying to an off-campus program which utilizes the cohort model.
7. **Admission Denied.** Applicants denied admission to the School of Graduate Studies and Research will receive a letter from the dean of the School of Graduate Studies and Research indicating the reason for the denial.
8. **Inactive Standing.** Applicants who do not begin course work within one year from the date of admission are classified as Inactive. Should an Inactive student later decide to commence course work, it will be necessary to reapply for admission.

Application Deadlines

The School of Graduate Studies and Research operates under a "rolling admissions" process. This means that applications are reviewed throughout the year and that admission decisions are made daily. Some programs have specific application deadlines, and these are enumerated below.

Art (M.A. and M.F.A.)	March 1 (Spring) June 1 (Summer)
Clinical Psychology (Psy.D.)	January 10
Community Counseling (M.A.) and Counselor / Education (M.Ed.)	Summer admission Two weeks before the first Friday in May Fall admission Two weeks before the first Friday in July Spring admission Two weeks before the first Friday in Dec.
Curriculum and Instruction (D.Ed.)	March 15
Education of Exceptional Persons (M.Ed.)	March 1 (Summer & Fall) July 15 (Spring)
Educational Psychology (M.Ed.)	February 15
Post-Master's Certification in School Psychology	February 15
Principal Certification (Cohort Groups)	Summer admission April 1 Fall admission July 1 Spring admission November 1
School Psychology (D.Ed.)	March 1
Speech-Language Pathology (M.S.)	March 1
Student Affairs in Higher Education (M.A.)	March 1

Cohort Beginning Terms

Main Campus

Administration and Leadership Studies.
Education Track (D.Ed.) Summer, every two years (even years)
Administration and Leadership Studies.
Human Services Track (Ph.D.) Fall, every two years (even years):
Application deadline: February 15

Monroeville

Community Counseling (M.A.) Fall
Criminology Fall
Master of Business Administration.
Executive Track (M.B.A.) Fall or Spring
Master's in Education (M.Ed.) Fall
Nursing (M.S.) Fall or Spring

Dixon Center (Harrisburg)

Administration and Leadership Studies.
Human Services Track (Ph.D.) Fall, every two years (odd years):
Application deadline: February 15

Armstrong Campus (Kittanning)

Industrial and Labor Relations (M.A.) Fall

Maryland

Safety Sciences (M.S.) Fall or Spring

International Student Applicants

In addition to fulfilling the general application procedure, international applicants must present evidence of fluency in English. Applicants whose native language is not English are required to take the Test of English as a Foreign Language (TOEFL). The School of Graduate Studies and Research will not process applications from international applicants until TOEFL scores are on file in the School of Graduate Studies and Research. While the School of Graduate Studies and Research sets a minimum score standard of 500, some departments have higher requirements. Please consult the department for details. (Students requesting information about the TOEFL should write to TOEFL, Educational Testing Service, Princeton, NJ 08540, U.S.A. or access the website www.toefl.org/.)

International applicants must also complete a Foreign Student Financial Statement, included in the application packet. The applicant must demonstrate sufficient financial resources to meet the cost of living in the United States, the cost of travel to and from the student's native country, and the cost of graduate education at IUP (if living outside the U.S., \$16,700 is needed). Applications will not be processed without an acceptable financial statement and application fee.

International students must submit official English translations of their transcripts. These documents must bear the official seal of the issuing college or university.

If the international applicant is admitted to the university, the School of Graduate Studies and Research will notify the Office of International Affairs at IUP. The Office of International Affairs will mail official acceptance letters, immigration documents, information on housing, arrival dates, and other general information about the university. Questions concerning immigration documents and other legal matters should be addressed directly to Office of International Affairs, Indiana University of Pennsylvania, Wallace Hall Annex, 875 Grant Street, Indiana, PA 15705-2295, U.S.A. or sent via e-mail to intl-affairs@iup.edu.

Applicants for Specialist, Administrative Certification, and Letter of Eligibility Programs from the Pennsylvania State Department of Education

The IUP College of Education and Educational Technology offers state-approved programs leading to specialist and administrative certificate programs in Elementary School Counseling, Secondary School Counseling (Counseling Department), School Psychology (Educational and School Psychology Department), Reading Specialist (Professional Studies in Education Department), and Elementary or Secondary School Principal (Professional Studies in Education). The program for preparation for school superintendency is an integral part of the doctoral program in Administration and Leadership (in the Department of Professional Studies in Education). This doctoral program includes the requirements for a Pennsylvania letter of eligibility to become a school superintendent.

Applicants for these programs should follow the same procedures for admission, programming, and registration as described in this catalog. Interested applicants should check with the department chair or graduate coordinator responsible for the specialized program for information before beginning the admissions process.

Principal Certification

IUP offers a performance-based school principal certification program in elementary and secondary education. Those who wish to pursue this program must first be granted admission to the School of Graduate Studies and Research. Applicants must have five years of experience in their original area of certification and hold a master's degree. Before applying, however, interested applicants should consult with the director of the principal's certification program (Dr. Cathy Kaufman, Professional Studies in Education Department, 305 Davis Hall; 724-357-2400).

Examination Requirements

Graduate Record Examination (GRE)

The following departments require the submission of official GRE scores (general test) prior to admission:

- Administration and Leadership Studies, Human Services (Ph.D.)
- Criminology (Ph.D.)
- Educational Psychology (M.Ed.)
- Food and Nutrition
- Geography
- History
- Political Science
- Psychology (Psy.D.)
- School Psychology (D.Ed.)
- Sociology

In addition to the general test, the Clinical Psychology and School Psychology programs require the Psychology subject test.

Graduate Management Admission Test (GMAT)

Applicants to the M.B.A. or M.B.A.—Executive Track program are required to submit GMAT scores of not less than 450 prior to admission as part of their application process.

Miller Analogies Test (MAT)

Applicants with a cumulative undergraduate GPA below the minimum requirement of 2.6 will be required to submit MAT scores of not less than 47 as part of their application process.

Specific information regarding test registration and availability can be obtained from the Office of Career Services, 302 Pratt Hall, 724-357-2235. Applicants should request that their scores be sent to the School of Graduate Studies and Research at IUP.

Finances

Tuition and Fees

Fees for the 2003-04 academic year include the following charges, which are subject to change at any time. A full-time graduate student is one who is carrying at least nine graduate credits per semester, while a part-time graduate student carries eight credit hours per semester or less. Students must be enrolled in a degree program for at least 4.5 hours per semester to be considered for financial aid.

Questions about the residency classification should be directed to the Residency Classification office, Clark Hall, 724-357-2217.

Tuition—Fall 2003 and Spring 2004

- Pa. resident full-time\$2,759 per semester
- Pa. resident part-time\$307 per credit
- Non-Pa. resident full-time\$4,415 per semester
- Non-Pa. resident part-time\$491 per credit hour

Tuition—Summer 2004

- Pa. resident\$307 per credit hour
- Non-Pa. resident\$491 per credit hour

Health Service Fees

Health Fee A (fall and spring only)

\$85/semester (offers access to clinical care)

Mandatory for full-time undergraduates (optional for all other students)

Fees subject to change pending Council of Trustee approval.

Health Fee B (fall and spring only)

\$12 (health and wellness programs and services)

Mandatory for full-time graduate students and part-time undergraduate students

Fees subject to change pending Council of Trustee approval.

There are no mandatory health fees in the summer. Summer fees are based on services that are provided.

The Health Fee can be waived for students commuting from a distance outside of a fifty-mile radius of Indiana or for students having an internship which is more than twenty-five miles from Indiana. Waivers are considered by submitting an electronic

request using the form located in the University Records and Systems Assistant (URSA).

Student Cooperative Activity Fee

- Full-time student\$102.50 per semester
- Part-time student\$43.50 per semester
- Summer ...\$12.50 per credit (\$150.00 maximum total fee)

Exceptions to Activity Fees: Information regarding exceptions to this fee structure may be found by accessing the Student Cooperative website at www.iup.edu/coop (select Activity Fee Policy) or by contacting the Student Cooperative Association at 724-357-2590. In general, students are eligible to have the activity fee waived if they are doing dissertation work only; commuting at least sixty miles one way to campus, or participating in summer workshops that last one week or less. Also, students who reside and hold internships or student teaching assignments twenty-five miles or more from campus are eligible for a 75 percent fee reduction (100 percent reduction if sixty or more miles away). Any request for a waiver or reduction of the fee must be initiated by the student. Forms may be processed on line by going to www.iup.edu/coop and selecting Activity Fee Policy, or may be obtained at the Student Cooperative Front Desk, located in the Hadley Union Building.

Instructional Fee (Mandatory)

- Full-time student\$276
- Part-time student\$30.70 per credit
- Summer\$30.70 per credit

Application Fee\$30 (nonrefundable)

Registration Fee

- Full-time, part-time\$30
- Summer\$25

Audit Fee (Same as Tuition)

Special Fees

Damage Fee

Students are responsible for damage, breakage, loss, or delayed return of university property.

Transcript Fees

Students can request official transcripts in several ways. If on campus during business hours, the student can go to the Registrar's Office in Clark Hall and complete a transcript request form. It only takes a minute to complete, and the student is assured that the request is expeditiously received. Beginning August 26, 2002, there will not be any charge to students for ordering official transcripts which require routine processing. However, there will be a maximum daily limit of SEVEN (7) official transcripts that can be requested. Any special handling requests can also be made at that time, and special handling requests will have fees assessed. When in the Registrar's Office in person, the student can pay for any special handling requests with cash, check, or a credit card. The Registrar's Office is open Monday through Friday, 8:00 a.m. to 5:00 p.m.

If the student is away from the IUP campus, the student can download a Transcript Request form from the website, www.iup.edu/registrar, complete it and either mail or fax it to the Registrar's Office. If he or she does not have access to a computer or to a printer, the student can mail or fax a written request to the Registrar's Office. The request must contain the following information:

- Student's name (include any previous names from time student began course work at IUP)
- Student ID number
- Date of birth
- Dates of attendance at IUP
- Return address and a daytime phone number where student can be reached
- Number of transcripts requested
- Name, title, and address of person to whom each transcript is to be sent
- Indicate whether any special handling is to be done in the transcript processing
- Students having multiple transcripts mailed to themselves should indicate if they should be placed in separate, sealed envelopes.
- The student's handwritten signature **MUST** appear on the request.
- For mailed requests, enclose a check, payable to "IUP" to cover the cost of any special handling fee
- Faxed requests **MUST** contain credit card information if special handling is requested (Fax or RUSH Service). The following information must be included: the cardholder's name, card number, expiration date, and type of card (Visa, MasterCard, and Discover are accepted). If the address on the credit card is different from the return address, this credit card address (including zip code) must be included.

Special handling fees:

- **RUSH Service Fee** (RUSH transcripts are mailed the next business day from receipt of the request) = \$4.00 per complete order of transcripts placed at any one time.
- **Fax Service Fee** (Fax transcripts are unofficial and are a rush status. The Registrar's Office places an official transcript in

the mail to follow the faxed transcript) = \$4.00 per individually faxed transcript + \$4.00 RUSH Service Fee (See RUSH Service Fee listed above.)

- RUSH requests must be received in the Registrar's Office by 3:00 p.m. in order to be mailed the next business day.
- RUSH fees are applied only once per request.
- All fax transcripts are handled as RUSH requests.

Through compliance with federal regulations regarding confidentiality of educational records, the Registrar's Office **WILL NOT** process requests made over the telephone, by e-mail, or by anyone other than the student whose transcript is being requested.

The address for the Registrar's Office is Clark Hall, 1090 South Drive, IUP, Indiana, PA 15705. The office fax number is 724-357-4858. For questions, the office telephone number is 724-357-2217.

All fees are subject to change without notice.

Grades and transcripts may be withheld by IUP if a student is delinquent in paying any bill owed to the university. Payment of the bill or establishment of a payment plan satisfactory to the university will be required for release of grades and/or transcripts.

University Refund Policy

The university employs faculty, assigns residence hall space, and arranges for dining services in advance of each term based on the number of students who plan to enroll. A student who withdraws from the university creates vacancies that may not be filled and incurs obligations for compensation and services that must be honored.

The refund policy at Indiana University of Pennsylvania applies to all students, both full- and part-time, enrolled in programs for credit at the university, its branches, the Regional Police Academy, and the Academy of Culinary Arts.

The current refund policy can be obtained from the Office of the Bursar or from the web page: www.iup.edu/bursar.

Other Provisions

Formal withdrawal procedures must be initiated through the School of Graduate Studies and Research at the point of withdrawal. A written and dated notice is required by the student or the student's family in special circumstances, such as sickness, within thirty days of the student's withdrawal. In order to receive a reduction in fees for individual course withdrawal, documentation must be submitted to the Student Accounts Receivable Office prior to the close of the semester/session in which the course was offered.

Students who are suspended from classes, residence halls, and/or dining service will receive a reduction of fees in accordance with the refund policy.

Student military reservists or members of the National Guard who are ordered to active military service by the President of the United States will receive a full reduction in tuition. Other fees will be prorated.

Examples of refund calculations are available upon request from the Student Accounts Receivable Office, Clark Hall, which is responsible for implementing the refund policy. Students may appeal the decision rendered by the Student Accounts

Receivable Office to the Bursar.

Discrete Course Withdrawal

During the fall and spring semesters, graduate students may withdraw from a graduate course during the first two-thirds of the semester without prejudice and with the grade of "W" by using URSA. Following the close of the established withdrawal period, the student will need to petition the dean of the School of Graduate Studies and Research as determined by the published university calendar. The request must first be endorsed by the course instructor and the student's department chair or graduate studies coordinator, in that order.

Financial Aid

The Financial Aid Office, located at Clark Hall, offers financial information and counseling to all students attending IUP. The types of financial assistance offered for graduate students by the Financial Aid Office include student employment and educational loans.

The *Free Application for Federal Student Aid* (FAFSA) is used to determine eligibility for federal loans and federal work-study. The filing deadline is April 15 of each year.

Graduate students attending IUP on at least a half-time basis (4.5 credit hours or more) will be awarded assistance based on demonstrated eligibility. To be eligible for continued funding, applicants must remain in satisfactory academic standing at the university and show continued academic progress.

An academic year at IUP is composed of a minimum of thirty weeks of instruction in which a full-time graduate student enrolls for at least 18 credit hours. All course work must be taken at IUP with the exception of approved study abroad programs. These standards are used in determining eligibility for federal student aid.

The cost of attending IUP and the university's refund policy are listed in this catalog.

Assistantships

IUP offers both 20-hour assistantships (20 hours per week of assistantship service) and 10-hour assistantships (10 hours per week of assistantship service) to full-time degree-seeking graduate students. Full 20-hour assistantships currently pay a stipend of \$4,740 to \$6,330 for two semesters plus a waiver of tuition for graduate course work (see details below). Duties will vary somewhat from assistant to assistant and may include supervised teaching, research or assistance with research, and university service activities. Duties are under the supervision of a faculty member or administrator. Assistantships are looked upon as an encouragement or reward for academic excellence rather than as a means to relieve financial need.

Full 20-hour assistantships carry a full tuition waiver for the semester of the assistantship and an eligibility for a twelve-credit waiver the following summer. With some exceptions, full 10-hour assistantships carry one-half tuition waiver for the semester of the assistantship and a prorated waiver for the following summer.

Since stipends for assistantships may change from year to year, potential applicants should check with the School of Graduate Studies and Research for current stipend levels.

The deadline for applying for a fall assistantship is March 15 of

the same calendar year. Applications and further information are available at the office of the assistant dean for administration of the School of Graduate Studies and Research.

Teaching Associates

Each year, the School of Graduate Studies and Research offers a limited number of teaching associate positions to qualified doctoral students. Usually, an associate teaches six credit hours of undergraduate courses, but other teaching-related service is sometimes assigned in lieu of teaching. These positions carry a stipend and require the associate to be enrolled for graduate credit during each semester of the appointment. During the summer following the appointment, a tuition waiver of up to nine hours of graduate credit is awarded. Activity and health fees, as well as tuition during the fall and spring semesters, must be paid by the associate.

Minimum requirements: Associates must hold a master's degree or have completed 36 graduate semester hours prior to the appointment and must be enrolled in an IUP doctoral program and remain in good standing during the term of the appointment. Departments may have additional requirements.

For further information, contact the director of Doctoral Studies in the department offering your doctoral program.

Fellowship and Scholarship Information

Julius Filcik Doctoral Fellowship—This fellowship was made possible by an endowment established by Shirley U. Filcik and her family in memory of her husband, Julius, a member of the Class of 1953. The fellowship provides students with a financial award of \$5,000.

IUP Foundation Fellowships—Foundation Fellowships are awarded to students who have demonstrated merit and the potential for academic excellence in their doctoral studies. These fellowships provide students with a financial award of \$5,000 and should be combined with either a half-time graduate assistantship or a teaching associate position.

To be considered for either fellowship, the student must be nominated by his or her academic department. In addition to a completed admissions application, the nominee must provide the School of Graduate Studies and Research with a one-page prospectus of the research or clinical interests he or she intends to pursue in a doctoral program and a one-page statement of his or her qualifications for the award. All IUP fellowship nominees must be admitted to a doctoral program and must have received either a graduate assistantship or teaching associate position. Awards will be announced by June 1. For further information, please contact the Assistant Dean, the School of Graduate Studies and Research, 124 Stright Hall, 210 South Tenth Street, IUP, Indiana, PA 15705.

Margaret Flegel Harte Scholarships—Two \$450 scholarships are awarded yearly to new full-time graduate students. All new School of Graduate Studies and Research applicants except for those who receive other IUP scholarships are considered for the Margaret Flegel Harte Scholarships based on academic records and financial need. No application forms for the scholarships are required; the *Free Application for Federal Student Aid* (FAFSA) serves as the document for needs assessment. A FAFSA may be obtained from the Financial Aid Office. Interested students may contact the assistant dean for administration, School of Graduate

Studies and Research, 124 Stright Hall, 210 South Tenth Street, IUP, Indiana, PA 15705.

Graduate Merit Scholarships—Funding for this scholarship is made possible by the IUP Foundation Unrestricted Endowment Fund. The scholarship offers \$500 awards to a small number of students who are entering a graduate program (master's or doctoral) for the first time. Merit scholars must have a strong academic background and must have been granted an assistantship. To be considered for either fellowship, eligible students must be nominated by their academic department. For further information, please contact the assistant dean for administration, the School of Graduate Studies and Research, 124 Stright Hall, 210 South Tenth Street, IUP, Indiana, PA 15705.

Additional Scholarships—Graduate students are encouraged to seek outside scholarship opportunities to help finance their education. A number of scholarship search websites can be accessed through www.finaid.org.

Employment Programs

Federal Work Study Program (FWSP)—The Federal Work Study Program provides an opportunity for graduate students enrolled in a degree-granting program of study to earn money to help finance educational expenses. Students may be employed on campus for up to 25 hours per week when classes are in session and 40 hours per week during vacation periods. Federal Work Study jobs not only help to defray the cost of education but can add valuable practical experience accompanying the student's graduate education. Eligibility is based on financial need as determined by the *Free Application for Federal Student Aid* (FAFSA). The FAFSA is available in the Financial Aid Office along with the institutional application for Federal Work Study. Students are responsible for securing their own positions on campus, but placement assistance is available through the Student Employment Center at 724-357-2235.

Serve-Study Federal Work Study Program—For students who would like to be of service to the community through participation in the activities of selected nonprofit agencies, a number of employment opportunities are available through the Serve-Study FWS program. Contact the Student Employment Center located in 302 Pratt Hall at 724-357-2235 for additional information.

University Employment (UE)—The University Employment Program provides an opportunity for graduate students to work as an accompaniment to their studies program. Maximum UE hours are 25 hours per week when classes are in session and 40 hours per week during vacation periods. This employment program is not based on financial need and submission of the FAFSA is not required. Employment provisions are similar to the Federal Work Study Program.

Special Funded Grant Employment—Grant employment opportunities are also available to graduate students from time to time. Interested students should check with the Assistant Dean, IUP School of Graduate Studies and Research, 124 Stright Hall, 210 South Tenth Street, Indiana, PA 15705.

Student Loan Programs

Federal Stafford Loan—The Federal Stafford Loan provides the potential for graduate students to borrow up to \$18,500 per

academic year. At least \$10,000 of this amount must be in unsubsidized funds on which interest must be paid or capitalized by the student during the in-school and grace periods. Principal and interest on a subsidized Federal Stafford Loan are deferred while the student is enrolled on at least a half-time basis and during a six-month grace period. Eligibility for the interest subsidy is based upon financial need as determined by the FAFSA. Interest is at a variable rate not to exceed 8.25 percent.

All annual Federal Stafford Loans are disbursed in two equal installments, and students are required to complete Federal Stafford Loan Entrance Counseling before receiving funds for the first time at IUP.

Repayment of principal and interest on a subsidized loan begins six months after the student ceases half-time enrollment. The student must pay the interest or have it capitalized during the in-school and grace periods on an unsubsidized loan according to a schedule set by the lender. Principal payments begin six months after half-time enrollment ceases. There are some deferment options available after you leave school.

Private Alternative Loans

There are a number of privately funded educational loan programs which provide funds to creditworthy students. Although the interest rates and terms are not as generous as the Federal Stafford Loan, some students may be interested in this type of borrowing opportunity. Additional information is available in the Financial Aid Office or at the website www.iup.edu/financialaid.

Veterans Educational Loans

IUP is approved to offer training under the various G.I. Bills. Students who are entitled to training under one of these bills should contact the veterans counselor immediately after being accepted for admission to IUP in order to secure additional instructions. This procedure is necessary so veterans may be included on the monthly payrolls. The Office of the Veterans Counselor is in Clark Hall; the telephone number is 724-357-3009.

Scholarships and Fellowships

A number of professional organizations, government agencies, and private foundations offer scholarship assistance to graduate students. Many of these opportunities may be found by using web searches to match academic program and interests with appropriate funding sources. The Financial Aid Office website offers the information to begin the search process.

Further Information

For further information on financial aid, please contact:

Financial Aid Office
Indiana University of Pennsylvania
Clark Hall, 1090 South Drive, Indiana, PA 15705-1093
Voice: 724-357-2218
Fax: 724-357-2094
E-mail: financial-aid@iup.edu
Web: www.iup.edu/financialaid

Registration

Advisement

Immediately after a student has been admitted to the School of Graduate Studies and Research, he/she should consult the department chairperson or graduate coordinator of his/her intended field of study regarding a program of courses. If the student is a special status admittee, consultation should be with the assistant dean of the School of Graduate Studies and Research. Many departments believe strongly that their students should be advised well before registration for each semester or summer term. Students are responsible for knowing their department's scheduling advisement rules.

University Registration and Scheduling Assistant (URSA)

Students enrolled at IUP can register for classes only on the web by going to www.iup.edu/ursa. This is the IUP student's tool for class registration and schedule planning.

Billing

After students have registered, they will receive from the Student Accounts Receivable Office a bill for tuition and fees.

Schedule Adjustment and Drop/Add Policy

Students have the opportunity to make adjustments to their schedules any time after the original registration date. Please consult course schedules for appropriate dates and times.

At the beginning of each semester, a few days are set aside for dropping and adding courses. The Drop/Add period was established to permit enrolled students to make schedule adjustments, not to allow unregistered students to build schedules. Students using the Drop/Add period for anything other than schedule adjustments will be charged a late registration fee. Drop/Add dates are set at the beginning of each semester, and students should check with their departments to learn the dates, times, and procedures for dropping and adding courses.

22 *Master's Degree Programs*

The School of Graduate Studies and Research offers Master of Arts and Master of Science degrees in most academic fields plus the professional degrees Master of Business Administration, Master of Education, and Master of Fine Arts. (See below for specific degree fields.) All students working toward a master's degree must satisfy the School of Graduate Studies and Research policies set forth in this catalog and any additional special program requirements imposed by a department.

Under certain circumstances, a specific School of Graduate Studies and Research requirement for the master's degree may be satisfied by means of substitution. In no case are requirements waived. Requests for substitutions must be made by petition to the dean of the School of Graduate Studies and Research after approval by the student's department.

Master of Arts degrees are offered in the following:

- ▶ Adult/Community Education
Adult Education and Communications Technology Track
- ▶ Art
- ▶ Chemistry
- ▶ Community Counseling
- ▶ Criminology
- ▶ English: Generalist
Literature
Teaching English
TESOL
- ▶ Geography
- ▶ History
- ▶ Industrial and Labor Relations
- ▶ Music
- ▶ Physics
- ▶ Public Affairs
- ▶ Sociology
- ▶ Student Affairs in Higher Education

Master of Science degrees are offered in the following:

- ▶ Applied Mathematics
- ▶ Biology
- ▶ Chemistry
- ▶ Food and Nutrition
- ▶ Geography
- ▶ Nursing
- ▶ Physics
- ▶ Safety Sciences
- ▶ Speech-Language Pathology
- ▶ Sport Science

A Master of Business Administration degree (M.B.A.) and a Master of Fine Arts degree (M.F.A.) are also offered.

Master of Education degrees are offered in the following:

- ▶ Business/Workforce Development
- ▶ Early Childhood Education
- ▶ Education of Exceptional Persons
- ▶ Educational Psychology
- ▶ Elementary or Secondary School Counseling
- ▶ Elementary and Middle School Mathematics Education
- ▶ Mathematics
- ▶ Master's in Education
- ▶ Literacy

Transfer Credits

Up to six credits of graduate work taken as a graduate student and up to twelve graduate credits through approved inter-institutional agreements may, with written approval, be incorporated as part of the graduate student's program at IUP. These courses must have been completed at a regionally accredited institution, within the past five years, and the grade earned must be a "B" or its equivalent or better. The time limitation rule and residency requirements (cited later in this catalog) pertain without modification to transfer credits.

To request the transfer of credits, the student provides the School of Graduate Studies and Research with a written request indicating the course to be considered for review. A catalog course description or course syllabus must accompany the request. An official graduate transcript showing the earned credits must be provided by the school at which the credits were taken. To be considered official, the transcript must arrive in a sealed envelope bearing the official seal of the issuing institution. The request is reviewed in the School of Graduate Studies and Research and the academic department. After a decision is rendered by the School of Graduate Studies and Research, the Registrar's Office, student's department, and the student are notified of the transfer decision.

Students wishing to transfer credits from another institution while enrolled at IUP must receive advance written authorization for credit acceptance from the School of Graduate Studies and Research and the academic department. The review process is as described in the preceding paragraph. Note: Credits earned at IUP, prior to a student's admission to the current degree program, fall under all terms specified in the preceding paragraph.

If transfer credits are approved, only the credit, not the grade or accompanying quality points, will appear on the student's IUP transcript.

Transfer credits are not posted to the student's IUP graduate record until the student has been admitted to degree candidacy.

Degree Candidacy

Students are reviewed for degree candidacy the semester following the completion of 12 hours of graduate credits. (Some departments require more than twelve credits for candidacy.) Students must be enrolled in course work to be considered for candidacy status. To be admitted to candidacy, students must have achieved a cumulative grade point average of 3.0 or higher in all graduate course work and must have met all program requirements to the satisfaction of the department.

Students who are not granted candidacy after completing twelve graduate credits must satisfy all candidacy requirements during the next semester. At the end of this additional term, students will be granted candidacy or may be asked to leave the master's degree program.

Students with especially strong credentials may be granted candidacy upon admission to the School of Graduate Studies and Research if recommended by the academic department and if their files are complete in every respect.

Residency

Master's degree candidates have no formal residency requirements, but all credits applied toward the degree (except a possible transfer of six credits) must be taken through IUP. In addition, all candidates must complete their program's final six credits of graduate work in courses offered by IUP. (The equivalent of two academic years of full-time study is required to meet requirements for graduation from the Student Affairs in Higher Education [SAHE] program.)

Graduation

Early in their final semester or summer session, students must file an application for graduation. The application for graduation is found on line at www.iup.edu/graduate. Applications must be filed by the following deadlines: March 1 for May, June 1 for August, and October 1 for December. If all requirements have been met, the degree will be awarded at the next established diploma-award date.

24 *Doctoral Degree Programs*

The School of Graduate Studies and Research offers work leading to the doctorate through the following departments: Criminology; Educational and School Psychology (School Psychology); Professional Studies in Education (Curriculum and Instruction; Administration and Leadership Studies; Education Track); English (Literature and Criticism, Composition and TESOL); Psychology (Clinical Psychology); and Sociology (Administration and Leadership Studies; Human Services Track).

Applicants should keep in mind that the doctorate is conferred for distinguished achievement in a particular field of scholarship and for demonstrated ability to perform independent research and/or professional practice in an area of that field. No specific number of course credits entitles a student to the degree.

Those interested in any of the doctoral programs should read the descriptions provided by sponsoring departments later in this catalog. Deadlines for submitting applications and supporting documents vary from program to program, as do degree requirements. Therefore, it is important for students to check with the sponsoring department at the very start of the application process.

The following doctorates are offered:

- ▶ Doctor of Education in Administration and Leadership Studies
- ▶ Doctor of Philosophy in Administration and Leadership Studies
- ▶ Doctor of Psychology in Clinical Psychology
- ▶ Doctor of Philosophy in Criminology
- ▶ Doctor of Education in Curriculum and Instruction
- ▶ Doctor of Philosophy in English
- ▶ Doctor of Education in School Psychology

The doctoral programs in curriculum and instruction and administration and leadership studies maintain cooperative arrangements with other universities in the Pennsylvania State System of Higher Education, whereby some part of the requirements may be fulfilled at these schools.

Requirements for the Doctoral Degree

Students seeking a doctoral degree must satisfy the minimum School of Graduate Studies and Research requirements described below. Sponsoring departments have additional requirements which are equally binding.

Under certain circumstances, School of Graduate Studies and Research requirements for the doctoral degree may be satisfied by means of substitution. Requests for the acceptance of substitutions should be made in the form of a petition to the dean of the School of Graduate Studies and Research, after first obtaining the written approval of the student's department.

Credit Requirement

A minimum of sixty graduate semester credits, exclusive of dissertation credits, must be earned beyond the bachelor's degree for any of the doctorates offered at IUP.

Residency Requirements

Doctoral candidates will find that residency requirements vary from doctoral program to doctoral program. Doctoral students should check with their departments to learn which of the following residency options apply to their specific doctoral program: completion of a minimum of nine graduate credits at IUP in each of at least two consecutive semesters; completion of a minimum of nine graduate credits at IUP for at least one semester immediately preceding or following a summer of nine-hour study; completion at IUP of at least nine graduate credits in each of two consecutive summers plus six graduate credits during the intervening academic year; or completion of twelve graduate credits at IUP in each of two consecutive summers.

Transfer Credit

Up to six credits of graduate work taken as a graduate student and up to twelve graduate credits through approved interinstitutional agreements may, with written approval, be incorporated as part of the graduate student's program at IUP. These courses must have been completed at a regionally accredited institution, within the past five years, and the grade

earned must be a “B” or its equivalent or better. The time limitation rule and residency requirements (cited later in this catalog) pertain without modification to transfer credits.

To request the transfer of credits, the student provides the School of Graduate Studies and Research with a written request indicating the course to be considered for review. A catalog course description or course syllabus must accompany the request. An official graduate transcript showing the earned credits must be provided by the school at which the credits were taken. To be considered official, the transcript must arrive in a sealed envelope bearing the official seal of the issuing institution. The request is reviewed in the School of Graduate Studies and Research and the academic department. After a decision is rendered by the School of Graduate Studies and Research, the Registrar’s Office, student’s department, and the student are notified of the transfer decision.

Students wishing to transfer credits from another institution while enrolled at IUP must receive advance written authorization for credit acceptance from the School of Graduate Studies and Research and the academic department. Note: Credits earned at IUP, prior to a student’s admission to the current degree program, fall under all terms specified in the preceding paragraph.

If transfer credits are approved, only the credit, not the grade or accompanying quality points, will appear on the student’s IUP transcript.

Transfer credits are not posted to the student’s IUP graduate record until the student has been admitted to degree candidacy.

Degree Candidacy

Each student admitted to a doctoral program must receive doctoral degree candidacy after completing at IUP no less than nine nor more than fifteen graduate credits beyond the master’s degree (some departments have additional requirements for candidacy; consult the program’s coordinator). The student’s minimum grade point average for degree candidacy may be set higher than the foregoing School of Graduate Studies and Research requirement by the program’s sponsoring department, but in no case may it be lower.

Candidacy Examination

In departments which require it, the candidacy examination is administered by the department in the student’s field of specialization. The examination may be written, oral, or both, as determined by the sponsoring department, and may also serve as the final examination for the master’s degree if a department so prescribes. The examination may not be taken until the student has completed at least one year of study beyond the bachelor’s degree.

Comprehensive Examination

This examination is given, usually upon the candidate’s completion of course work, to determine the student’s progress in the degree field and fields related to it and the student’s likelihood of success in his or her research-dissertation phase. The examination may be written, oral, or both and is not necessarily limited to areas in which the candidate has taken course work.

Reexamination

A student who fails the candidacy examination, or any part of the comprehensive examination, qualifying examination, or any of the examinations in foreign languages and/or computer language, may request reexamination not earlier than one semester following the time of failure, nor later than one year after that date. No student is permitted a third examination without a recommendation to that effect from the degree program’s sponsoring department and the approval of the University-Wide Graduate Committee. Exceptions to this policy for programs can be made only with the approval of the University-Wide Graduate Committee.

Foreign Language/Research Tool Options

Foreign language and/or research tool requirements for doctoral degrees vary from program to program. In most cases, programs offer options for meeting these requirements. Students should consult with the department sponsoring the degree for specific information and guidance on meeting these requirements.

Dissertation

A dissertation is required of all doctoral candidates and must demonstrate the candidate’s mastery of his/her research and reflect the results of an original investigation in the principal field of study. The goal should be to make a definite original contribution to knowledge in the field.

Dissertation Committee

The dissertation committee may supervise several aspects of the student’s degree program from the point at which he/she is admitted to doctoral degree candidacy through defense of the dissertation. Students must consult with the sponsoring department to determine which supervisory roles apply. The committee may approve the student’s plan of study; arrange for the candidacy examination; arrange for the comprehensive examination; and oversee the candidate’s general supervision related to research, the dissertation, and the general meeting of degree requirements.

Research Proposal

After the candidate has passed the comprehensive examination and has done extensive preliminary proposal research, he/she must present and defend a research proposal before the dissertation committee and the academic community. A copy of the proposal must be placed in the hands of all committee members at least two weeks in advance of the scheduled meeting. The proposal must be found satisfactory by all members of the committee before the candidate may proceed with the dissertation. The *Thesis/Dissertation Manual* outlines this procedure and is available from the School of Graduate Studies and Research.

Dissertation Process

Upon acceptance of the dissertation by the candidate's advisor, the candidate must follow procedures acceptable to his/her department and dean in providing copies for review by the dissertation committee, college dean, and doctoral coordinator. The candidate shall then request a formal meeting of the dissertation committee, at a time convenient to all members, to secure dissertation approval. The dissertation must be approved in writing by each member of the committee, as well as the assistant dean for research of the School of Graduate Studies and Research.

Publication of the Dissertation

Following approval of the dissertation by the committee, a minimum of three copies of the dissertation must be submitted to the School of Graduate Studies and Research's assistant dean for research. The dissertation must be microfilmed according to the plan provided by ProQuest Information and Learning. Guidelines are provided in the *Thesis/Dissertation Manual*, which is available from the School of Graduate Studies and Research and on line at www.iup.edu/graduate.

Application for Graduation

Applications for graduation must be submitted by the following deadline dates: March 1 for May, June 1 for August, and October 1 for December. Deadline dates are also available in the *Thesis/Dissertation Manual*, as well as in each semester's schedule of classes. The application for graduation is found on line at www.iup.edu/graduate.

Continuous Dissertation

Beginning with the fall 2004 term, this policy is binding for all doctoral students. Following completion of all course, language, and skill requirements and of the comprehensive examination requirement, doctoral students must enroll for at least one credit of dissertation or one credit of continuous dissertation each semester (Fall and Spring) annually through the graduation of the student, or until the time limit is exceeded (See "Time Limitation for Doctoral Students" policy). For this period, the student will be considered a full-time doctoral student. Until the dissertation is successfully defended, a grade of "R" will be assigned to each registered credit. Upon successful completion of the dissertation, the grade assigned by the dissertation director will apply to all registered dissertation credits. Students must pay tuition and mandatory university fees (equal to the part-time mandatory fees), and may choose to pay student health and activity fees if the associated services will be used.

General Policies and Procedures

General Policies and Procedures

Graduate students are expected to assume full responsibility for knowing graduate program procedures and regulations. General School of Graduate Studies and Research requirements are set forth in this catalog; a description of special departmental degree requirements is available in each department sponsoring the specific degree or certification program. Requests for exceptions to policy are given consideration when unique circumstances exist; questions concerning the proper routing of such requests should be addressed to the dean of the School of Graduate Studies and Research.

Academic Credits and Student Status

Although many graduate students work part-time or full-time, such work must not interfere with academic achievement. Graduate education at IUP is offered only to students in a position to benefit from it, and students are expected to maintain a sensible balance between graduate program commitments and outside commitments.

Students may schedule full-time academic loads in most graduate programs. Full-time graduate student status is defined as 9 to 15 semester hours of graduate credits per semester, while part-time status is defined as 8 or fewer semester hours per semester. Graduate assistants may not register for more than 12 total hours in any semester and must maintain full-time status throughout the time of their assistantship award.

Academic Good Standing

IUP master's students must maintain a minimum of 3.0 ("B") cumulative graduate quality point average to be in good standing academically. Students who fall below good standing are placed on probation for their next active semester or summer term, during which the cumulative average must be raised to 3.0. Students who fail to raise their cumulative averages to at least 3.0 during their probation period will be dropped from degree programs and School of Graduate Studies and Research rolls and will not be permitted to register for further courses. A student must be in good standing to be admitted to degree candidacy and to graduate. This policy remains the same for students pursuing a

graduate degree at the doctoral level, except the required minimum grade point average is between 3.0 and 3.5, depending upon the program.

Course Auditing

Auditing is not permitted in a graduate course unless the student has been admitted to the School of Graduate Studies and Research, has received permission to audit from the course's instructor, and has been approved for course enrollment by the dean of the School of Graduate Studies and Research. Auditors must pay normal tuition and related fees. An auditor will, with permission from the instructor, participate in class discussion, do practicum work, take examinations, and share generally in the privileges of a class member. If the student completes all course requirements, an "audit" notation is posted to the student's academic record. No student who is required to carry a certain number of credits may count among those credits the credit for an audited course.

Class Cancellation

(see *Inclement Weather Policy*)

Course Numbering

All dual-level courses, open to enrollment by both graduate and qualified undergraduate students, carry 500-599 course numbers; all courses open only to graduate students carry 600-series and above numbers.

Dual-Level Courses

The number of 500-599 course credits applicable to a degree program shall be a maximum of 50 percent of the credits required for that degree. Some programs may call for less than 50 percent. Students should check this requirement with their advisors.

Graduate students who enroll in dual-level courses should be aware that dual-level courses commonly impose greater obligations on graduate students than on undergraduate students taking the same courses.

Course Overlaps in Degree Programs

Within set limits, a student may use the same course to count in two different master's degree programs, if the course is acceptable in both programs. However, the number of overlap credits counted toward a second master's degree will be limited to 20 percent of the credits in the second master's degree program. (Should credits be requested for use in a second degree program, they will be treated as transfer credits and therefore count toward the six-credit maximum permitted by the Transfer Credit Policy.)

Course Repeat Policy

No graduate credit is given for "F" grades, and graduate grading policy does not permit "D" grades. Students may repeat "C" or "F" grades according to the following policy:

1. Only one course can be repeated for each graduate degree program the student attempts or completes.
- 28 2. This one course can be repeated up to two times, for a total of three attempts (the original registration for the course plus two repeat attempts).

Semester hours for repeated courses will be counted only once for all attempts made, and the hours and grade earned when the course was last taken will be used to compute the grade point average. However, all attempts and the original grade(s) will continue to appear on the graduate transcript.

Graduate Course Scheduling by Undergraduates

IUP undergraduate students with an academic grade point average of at least 2.6 who are within 32 semester hours of graduation are permitted, after receiving appropriate approvals, to take up to 6 semester hours of graduate work whether or not they have applied for acceptance into an IUP graduate program. Graduate hours so earned have no necessary bearing upon the meeting of undergraduate degree requirements, and no assurance is given or implied as to their later applicability toward graduate degrees should the students be admitted to IUP graduate programs. Should these credits later be approved toward a graduate degree program, they will be treated as transfer credits. Note: Graduate credits taken by an undergraduate student may not be reviewed for transfer if they were counted toward the undergraduate degree.

Final Credits Policy

All degree candidates must complete their program's final six credits of graduate work in courses offered by IUP. Under unique circumstances, appropriate substitutions may be authorized by petitioning the dean of the School of Graduate Studies and Research after obtaining departmental approval.

Grading System

The following grades are used in reporting the standing of students at the end of each semester or summer term:

A—Excellent	L—Late Grade, Continuing Course
B—Good	Q—Total Semester Withdrawal
C—Fair	R—Research in Progress
F—Failure	W—Withdrawal
I—Incomplete	

No "D" grade is recognized in IUP graduate work but may be earned by a graduate student enrolled in an undergraduate course.

Quality points are assigned as follows: A - 4; B - 3; C - 2. No quality points are carried by the notations F, I, L, Q, R, and W.

The grade of "I" is used to record work which, so far as covered, is of passing grade but is incomplete because of personal illness or other unavoidable reason. "I" grades must be converted no later than the final day of classes in the next regular (fall/spring) semester after the "I" grade was assigned. The dean of the college in which the course is offered may approve an extension, provided the faculty member concurs. A faculty member assigning an "I" grade must complete a form indicating the work to be completed, deadlines for completion (it is not necessary to allow the maximum allowable time), and guidelines to establish the final grade. Copies of the completed form will be sent to the department chairperson, to the dean of the college in which the course is taught, and to the student receiving the "I" grade. The "R" notation pertains only to thesis and dissertation research credits when such research is in progress as a semester or summer session ends. All "R" grades are replaced by the grade eventually assigned when the research is completed. The "W" notation applies to certain withdrawals from courses. Withdrawals from the university and discrete course withdrawals are discussed in other sections of this catalog. Note that an "F" is entered in the student's permanent academic record if a withdrawal of either type has not been processed in accordance with established procedures.

The grade of "L" is appropriate for cases in which the student's work is expected to extend beyond a given semester session. "L" grades may be used for internships, practicums, field experience courses, workshops, and independent studies that, by design, extend beyond the normal end of the grading period. Unless an exemption is obtained from the dean of the college in which the grade was given, an "L" grade unresolved at the end of one year will be converted to an "F." If a student withdraws from the university before the year has elapsed, outstanding "L" grades will be converted to "W" grades. If, for a graduate student, the maximum number of years allotted to complete the graduate degree runs out before the year has elapsed, outstanding "L" grades will be converted to "W" grades.

Graduate Study Beyond the Master's Degree

It is not unusual to find graduate students enrolling in more courses than they need to meet the requirements of a master's degree. Such action can be beneficial beyond the personal satisfactions which accrue, because the added studies may be well received by employers whether in business, government, or

the school system in such matters as certification. However, students should understand that most graduate schools have residency requirements at the doctoral as well as master's level and frequently will accept no more than 30 graduate semester hours earned elsewhere as applicable to a doctorate.

Independent Study

(see *Special Credits*)

Internship Policy

To qualify for a graduate internship appointment, the graduate student must have a minimum of twelve IUP graduate credits earned and a minimum 3.0 grade point average; must have been in full-time enrollment (nine graduate credits or more) during the semester or summer sessions (the latter taken as a whole) immediately preceding the academic period for which internship is requested;* and must meet departmental internship criteria. No more than six internship credits may apply to a graduate degree unless written approval of the student's department chair or graduate coordinator and the dean of the School of Graduate Studies and Research (in that order) is obtained. Continuation in an internship experience by a given graduate student is contingent upon the student's maintenance of satisfactory performance in all aspects of his/her degree program. Programmatic exceptions to the foregoing policy can be made only with the approval of the Graduate Committee.

*For graduate students active during summers only, or during fall-spring semesters only, the phrase "immediately preceding the academic period," etc., refers to the student's last preceding active semester or summer session.

Computer Software Policy

It is the policy of IUP that contractually protected and/or copyrighted computer software shall not be improperly copied, distributed, or used by its employees, students, or affiliated organizations. It is the responsibility of members of the university community to adhere to this policy and to enforce it with regard to those they supervise. If members of the community have questions regarding the propriety of using software, they are responsible for contacting their supervisor for direction. The supervisor may in turn refer the questions to the director of Academic Computing of the Technology Services Center for a decision on what constitutes proper use. The full text of the policy adopted by University Senate and Council of Trustees in May, 1988, is available in the computer laboratories and from the director of Academic Computing.

Program Changes

To insure their quality and relevance, graduate programs at IUP are subject to review and change by duly appointed and responsible university groups. Because of this, the university recognizes that provisions must be made to prevent hardship to students already enrolled in programs if changes later occur in specific or general program requirements. Students affected by changes in programs, policies, and regulations are therefore given the option of following those requirements in effect when the student was first enrolled in the program or those in effect at the time of expected graduation. The student cannot, of course, combine chosen elements of the two. Should a question of rule interpretation arise with respect to changes, the student, the

student's advisor, or both should petition the dean of the School of Graduate Studies and Research for a decision about which requirements apply.

Student Rights and Responsibilities

Upon admission to the School of Graduate Studies and Research, students assume responsibility for knowing program requirements and following departmental advising requirements when selecting and registering for courses. Students are also responsible for knowing the procedures for paying fees, processing class drop-adds and withdrawals, and applying for and meeting all requirements for graduation. Conversely, students have the right to expect that program requirements will be made clear, that course requirements—including grading criteria and procedures—will be made known early in a course, and that course grades will represent the instructor's professional and objective evaluation of performance. Students have the right to instruction that encourages the free and open discussion of ideas and that respects reasonable student needs and aspirations. Students share with instructors the responsibility for creating a classroom atmosphere that encourages maximum learning and exhibits a more intense scholarly zeal than that expected in undergraduate studies.

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Teacher Certification

Ordinarily, students with a previously earned baccalaureate degree will enroll as second degree undergraduate students in the program for which they wish to earn Pennsylvania teacher certification. Admission is through the dean of the School of Continuing Education. Program details are found in the *IUP Undergraduate Catalog*. There are a few programs in which special adaptations permit candidates for initial certification to be candidates for graduate degrees. The current list of these programs is available in the office of the associate dean for Educational College-School Partnerships in the College of Education and Educational Technology. Call 724-357-2485.

Candidates for second certification are admitted through the School of Continuing Education. Applicants who already hold one Pennsylvania teaching certificate and desire to add another instructional certificate must consult both the associate dean for Educational College-School Partnerships and the program coordinator in the subject area department for assistance in developing an individually planned program of study. Typically, second or additional certifications involve study only at the undergraduate level. Occasionally, work toward a second certification can be combined with work towards a graduate degree.

Time Limitations

Program credits earned at IUP or accepted by transfer are applicable to IUP master's degrees over a period not to exceed five years from the date of their earning unless the period is extended through student petition approved by the student's department and the dean of the School of Graduate Studies and Research. Doctoral candidates must complete degree requirements no later than seven years after beginning IUP doctoral program course work. No time extensions are considered for doctoral students unless all degree requirements other than the dissertation have been completed by the expiration of the seven-year time limit.

Special Credits Policy

A graduate program offered by a department constitutes a rationally structured and well-defined body of information and techniques deemed appropriate to the discipline. Consequently, the number of special credits that each master's and doctoral candidate may count toward a degree is restricted.

Special credits are defined as those earned through Independent Study, Individualized Instruction, Special Topics courses, workshops, or any combination therein.

A master's degree candidate may submit for credit toward the degree no more than six (6) semester hours of special credits approved by the department offering the degree.

Doctoral candidates may submit (a further) 6 semester hours of special credits beyond the master's or its equivalent if approved by the department offering the degree.

30 NOTE: Should a special credit offering later become a catalog-listed course that is part of the degree program, while the student is still working towards the degree, the student may request from the department a retroactive reclassification of credits so earned. In such cases, the student may again submit up to 6 semester hours of special credits.

Student Grade Appeal Policy

Grade Review Policy

If a student disagrees with the evaluation of his/her work by the instructor but has no basis for a charge of "discrimination" or "capricious evaluation" or "error," the student should discuss the matter directly with the instructor, and if unsatisfied, with the department chairperson, and if still unsatisfied, with the dean of the college in which the course was offered. In such cases, the decision of the instructor shall be final.

If a student believes that an improper grade has been assigned, an appeal may be filed on the following grounds:

1. **Discrimination:** On the basis of race, religion, national origin, sex, age, ancestry, handicapped status, affectional or lifestyle preference, or political affiliation.
2. **Capricious Evaluation:** Significant and unwarranted deviation from grading procedures and course outlines set at the beginning of the course (ordinarily in a written statement during the first week of the course) or grade assigned arbitrarily on the basis of whim or impulse. The student may not claim capriciousness if he or she disagrees with the subjective professional evaluation of the instructor.
3. **Error:** Demonstrable, objective determination that a mathematical or clerical error resulted in the entry of an incorrect grade.

Procedures of Appeal

Level I: Informal Resolution

Every effort should be made to resolve the disagreement at Level I. The student must first seek a resolution to the disagreement with the instructor either in person or in writing. If the student is not satisfied with the results, the student must then speak with the chairperson of the department that offers the course. If still unsatisfied, the student must discuss the matter with the dean of the college in which the course is offered. A Student Congress member may accompany and advise the student during the Level

I procedures. Only after all attempts for resolution at Level I have been exhausted may the student initiate Level II.

Level II: Appeal Screening

- A. **Composition:** Each year there shall be appointed a Grade Appeals Committee to determine the existence of the substantive basis for appeal. The committee will be composed of seven voting members: three faculty members appointed by APSCUF, three members elected by and from the Senate Academic Committee (one faculty, one administrator, one student), and one student appointed by the Student Congress. A quorum consists of a majority of the committee. To take action, a majority of those present must be faculty members. If a quorum of the Level II committee is not available to meet within the designated time limits, the Provost's Office will seek additional members from the appointing bodies. If these bodies are unable to respond in a timely manner, the Provost's Office may select additional members from the appropriate groups.
- B. **Procedure to Initiate Appeal:** To initiate Level II of the appeal, the student must file an appeal form with the Provost's Office. This form must be filed within sixty (60) calendar days of the beginning of the semester immediately following the semester in which the grade was received. The Provost's Office may extend the sixty-day limit only in unusual circumstances when equity demands it and when the student's own procrastination or misunderstanding did not substantially contribute to the delay. (Note: Grade appeals will not generally be processed during the summer. Therefore, the appeal of any grade received in the spring or summer sessions normally will be processed in the fall. A review will be scheduled in the summer only when the student's academic eligibility is jeopardized by the grade in question or when the student is a graduating senior.) The Provost's Office will notify the appropriate dean, department chairperson, faculty member, and the Student Congress president of the student's initiation of the Level II process.
- C. **Procedure to Process Appeal:** The student will be expected to submit written documentation of his/her complaint, and the faculty member will be expected to submit in writing the course grading procedure and any other pertinent information. Appeals based on discrimination will be reviewed according to current standards of nondiscriminatory action. Appeals based on capriciousness will be reviewed in light of the faculty member's announced evaluation and grading system. The committee will review the materials to deny or confirm appeal continuance. Denial of appeal continuance must be by a negative vote of four members of the committee. This committee will inform the Provost's Office of its findings. Within five (5) class days of the receipt of the committee's report, the provost or designee will notify the student and the faculty member of the findings. If the basis for appeal is determined to be substantive, the provost or designee will schedule a Grade Review Panel within fifteen (15) class days to be convened prior to the conclusion of the semester.

Level III: Appeal Review

- A. **Composition:** The Grade Review Panel will consist of five voting members: one academic dean or associate dean and four faculty members. The Student Congress Executive Committee designee may advise as requested by the student. The affirmative action officer will advise in appeals based on discrimination. The panel will be constituted from the Grade Review Pool by random selection. The panel chairperson will be elected by and from the panel before each review.
- B. **Membership:** The Grade Review Pool will be established in the spring term to serve for the following academic year. Using random selection methods, the pool and rotational order within the pool will be established by the Provost's Office. A pool of three deans or associate deans and twelve full-time faculty members will be maintained. In establishing the membership for each review panel, prior to each review the names of those designated as primary members of the specific panel and available as alternates will be supplied to all parties involved. A panel member may request (to the provost or designee) disqualification due to a conflict of interest. The student and the faculty member may eliminate names in proportion to the composition of the panel. Each may eliminate only one dean/associate dean and four faculty members. The instructor and the student will be supplied a list of all primary and secondary pool members. The opportunity to disqualify panel members will take place only once. Resulting vacancies will be filled from the appropriate pool of alternates so that the panel will be composed of one dean/associate dean and four faculty members. If through self-disqualification and challenges a panel cannot be constituted from the pool, then the Office of the Provost will supplement the pool using appropriate random selection methods.
- C. **Procedure:**
- Both the student and the instructor will have the right to appear before the panel, present witnesses, and offer evidence. In addition to those specified in Level III, Section A, each may also bring one observer, with whom he or she may consult but who may not participate in the review.
 - The panel shall determine its rules of order for internal operation. After hearing the evidence brought forth, the panel will privately deliberate and render a decision. If the grade appeal is upheld, the panel will constitute a committee of three appropriate faculty members (knowledgeable in the discipline but excluding the faculty member against whom the complaint was lodged), who will review the student's work and recommend the appropriate grade or suitable remedy. The panel will incorporate this information in its determination, which it then forwards to the Provost's Office for implementation, ordinarily within thirty days. The Provost's Office will initiate the processing of grade changes resulting from Level III decisions.
 - The written report sent to the Provost's Office will state whether the student's appeal is upheld or denied; if upheld, the committee's evaluation and remedy will be included. Both the student and the faculty member have the right to review all documents related to the appeal. All documents supporting the report will be sealed and

kept only as long as necessary (normally one year) to ensure the appropriate action is taken before they are destroyed or returned to the individual presenting the evidence.

Ancillary Provisions

- A. **Continuing Rights:** This appeal does not supplant any legal rights afforded by the Commonwealth of Pennsylvania and/or the government of the United States. Nothing in this policy abrogates or modifies any provisions of or rights under the Collective Bargaining Agreement.
- B. **Discrimination in this policy generally means unlawful discrimination:** To the extent that any form of discrimination identified in this definition is not unlawful discrimination, this definition shall not be taken to create a cause of appeal against the university. In such cases, the final appeal procedures stated in this policy will be final and binding on the student.
- C. **Tenure and Promotion Committee Membership on Grade Appeals Committees:** Members of the universitywide tenure and promotion committees may not serve concurrently on grade appeals committees.
- D. **Support Mechanism:** The Provost's Office, after consultation with the Senate Academic Committee and APSCUF, will be responsible for identifying a pool of at least ten faculty members well versed in the preparation of grade appeals who will be available upon request to help students or faculty prepare documentation for the grade appeals process.
- E. **Training/Support:** The Provost's Office will offer yearly information sessions/workshops to assist deans, chairs, grade appeals panel/committee members, and members of Student Congress/Academic Affairs Committee in identifying issues and to provide guidance for the resolution of grade appeals.
- F. **Dissemination of Grade Appeal Information:** The Provost's Office will annually report to the university community a statistical summary of grade appeal data that does not compromise confidentiality including 1) the number of appeals filed, 2) the resolutions at levels II and III, and 3) the final implementation of Level III decisions.
- G. **Appeals on Procedural Grounds:** Decisions may not be challenged merely because the Provost's Office fails to comply with Ancillary Provisions D, E, or F above.
- H. **Intentional Misrepresentation:** Intentional misrepresentation in the filing of grade appeals by students will be referred to the university judicial system for students. Intentional misrepresentation by faculty in the grade appeals process will be referred to the Provost's Office.
- I. **Confidentiality:** Students, faculty, administrators, and staff involved in processing and hearing grade appeals must respect the confidentiality of all aspects of these proceedings. Those breaching confidentiality subject themselves to possible disciplinary action. This shall not abridge the First Amendment rights of the student appellant nor the instructor against whom the appeal has been filed.
- J. **Intended Purpose:** The grade appeal procedures are designed simply as a means to resolve differences between students and faculty related to grading. Unless there is intentional misrepresentation, the results of a grade appeal

may not be used for disciplinary action of personnel.

- K. **Faculty Compensation:** If a Review Panel (hearing) is scheduled at a time in the summer when any faculty member involved is not under contract, the faculty member will be compensated under terms mutually agreed upon at Meet-and-Discuss.
- L. **Review of Policy:** Every five years the Senate Academic Committee will review, in consultation with the campus community, the operation of the Grade Appeals Policy and recommend changes deemed appropriate.
- M. *** Amendment:** Amendments may be implemented upon concurrence by University Senate, APSCUF Representative Council, and Meet-and-Discuss.

*NOTE: In the amendment process above, specification of University Senate implies the Council of Trustees' role in approving Senate actions and recognizes the Council of Trustees' final action to change policy.

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Academic Integrity Policy and Procedures

IUP is an academic community within the society at large. All members within this community are expected to accept the responsibility for academic integrity and honesty. Academic dishonesty seriously erodes the quality of educational pursuits and is unacceptable at IUP. The following policies and procedures have been established to preserve the academic integrity of the university community, while also providing a process that protects the rights of students who allegedly violate these policies.

Policy

- A. **Types of Violations.** Violations of academic integrity include, but are not limited to, the following:
 1. Providing or receiving unauthorized assistance in course work, with lab work, theses, dissertations, or during examinations (including qualifying and comprehensive exams) or quizzes.
 2. Using unauthorized materials or devices, such as crib notes, during examinations or quizzes.
 3. Plagiarizing papers, theses, dissertations, essays, reports, speeches and oral presentations, take-home examinations, computer projects, or other academic exercises by misrepresenting or passing off the ideas, words, formulas, or data of another as one's own. Plagiarism is dishonest and illegal. Writers are indebted to authors from whom they borrow exact words, ideas, theories, opinions, statistics, illustrative material, or facts (beyond common knowledge). Writers are also indebted *if they summarize or paraphrase in their own words* material from sources. All quoted material requires the acknowledgement of the source by the use of quotation marks or indentation (if exact wording is incorporated). In addition, both directly quoted and summarized material must be acknowledged by use of a note or parenthetical citation that indicates the author and/or date of publication and page number or numbers. If the writer indents a quotation, it must be clearly set off from the body of the text and must be documented in the aforesaid manner. To verify the various documentation procedures, writers should consult the style sheet in the

particular discipline for which they are preparing the assignment (MLA, APA, Chicago, BC, etc.).

4. Using the same paper or work more than once without authorization of the faculty member(s) to whom the work is being submitted.
5. Possessing course examination materials before the administration of the exam, without the prior knowledge or consent of the instructor.
6. Intentionally evading IUP academic policies and procedures; for example, improperly processing course withdrawals, grade changes, or other academic procedures.
7. Falsifying information, including falsification/fabrication of research data and/or statistical analyses, forging signatures on various forms and documents, or altering or adding answers on academic exercises or exams after work has been graded.
8. Computer dishonesty, including: tampering with or making unauthorized change to another person's or the university's computer system, illegally copying computer software, personal use of another individual's computer account, unauthorized activity involving another individual's personal computer system or any system belonging to the university, and other unauthorized use or violations involving computer use.
9. Noncompliance: failure to follow through with sanction(s) imposed as a result of an academic violation.

The university reserves the right to discipline any student for any action that an ordinary, reasonable, intelligent college student knows or should know might lead to the issuance of discipline. This means the university maintains the right to issue discipline for reasonable cause.

Charges of academic integrity violations may be brought by faculty members or administrators. Students who observe or become aware of a violation of academic integrity by another student are strongly encouraged to report it to a university official. A faculty member/administrator who believes that a student has violated an academic policy may elect to resolve the matter by Informal Resolution, by Documented Agreement, or by Formal Adjudication. Sanction(s) *may not be imposed upon a student believed to have violated an academic policy without following one of these three procedures.*

If charges are brought, the accused student(s) shall have a fair and reasonable opportunity to answer, explain, and defend against the charges. The university shall have the burden of proof in all cases. Hearsay should not be used as the sole evidence to establish any fact necessary to establish guilt or innocence.

Procedures

- A. Faculty/administrators must use one of the following options to resolve alleged violations of academic integrity.
 1. **Option I: Informal Resolution.** The faculty member/administrator and student may meet informally, normally within seven class days of the observation or discovery of the incident, and agree to resolve the issue without submitting any formal documentation. If the violation pertains to work being judged by a committee (examples might include dissertations and comprehensive examinations, both oral and written), the

meeting must involve a majority of the committee and the resolution must be agreed to by a majority of the committee. It is in the interest of both the faculty member/administrator and student to complete a statement that summarizes the incident, conference, and agreed-upon resolution. This factual statement should be signed by both parties and copies provided to the student and the faculty member/administrator. If agreement cannot be reached, or at the discretion of the faculty member/administrator, a more formal process as outlined in this policy may be initiated.

2. Option II: Resolution by Documented Agreement

- a. The faculty member/administrator may schedule a conference with the student in an attempt to agree on the facts of the case and to reach a mutually agreeable resolution. This meeting must normally be scheduled/requested within seven class days of the observation or discovery of the alleged violation or of the failure of resolution by Option I. If an agreement is reached, the faculty member/administrator must complete a Documented Agreement Form outlining the agreement and have it signed by both parties: faculty member/administrator and student. If the violation pertains to work such as a thesis or comprehensive examination being judged by a committee, the meeting must involve a majority of the committee and the Documented Agreement Form must be agreed to and signed by a majority of the committee. Copies are distributed to the student, the faculty member(s)/administrator filing the agreement, and the department chair, who must also electronically record the information for subsequent entry into the computer database. The form must normally be filed within seven class days of the conference.
- b. If an agreement is reached and the form is filed, the matter is closed unless the student has a prior academic violation(s) on record. By signing off on the agreement, the student waives the right to appeal the sanctions agreed upon in the conference. If the student fails to fulfill the written agreement, the faculty member/administrator may file an academic integrity referral against the student for noncompliance.
- c. If a prior academic integrity violation(s) for the student is on record, the matter will be referred to an Academic Integrity Board (AIB). The AIB will review the case to determine if more severe sanctions are warranted (see Section D, Multiple Violations).
- d. If a documented agreement is not reached, the faculty member/administrator should initiate the formal adjudication process by filing an academic integrity referral form with the department chair, normally within seven class days of the conference with the student.

3. Option III: Resolution by Formal Adjudication. A faculty member/administrator should pursue formal adjudication if:

- he/she cannot reach or chooses not to attempt a mutually agreeable resolution with the student

regarding the facts of the case or sanctions to be imposed.

- he/she believes that the violation is so severe that it warrants a sanction of expulsion, suspension, involuntary withdrawal from part of IUP's academic or other programs, or awarding a failing grade on a project or examination (such as a graduate qualifying or comprehensive examination or dissertation) when resubmitting the project or retaking the examination is not possible.
- a. The faculty member/administrator should file an academic integrity referral form with the department chair, normally within seven class days of the observation or discovery of the violation or within seven class days of the failure to reach a resolution through Option I or Option II. If the violation pertains to work being judged by a committee, the form must be signed by a majority of the committee. The form will contain a description of the alleged violation, including the time, date, and place of occurrence, and the recommended sanction(s) if the student is found to have violated this policy.
 - b. The department chair will forward a copy of the academic integrity referral to the student, normally within seven class days of receiving notification of the allegation, and contact the student to schedule a hearing to review the facts surrounding the allegation and recommended sanctions if the student is determined to have committed a violation.
 - c. The hearing should be scheduled so as to allow the student a reasonable time to prepare a defense (normally within seven class days of being notified of the allegation by the department chair).
 - d. This hearing will involve the student, the department chair, and the faculty member/administrator(s); the department chair may invite others with pertinent information. All parties must be given the opportunity to submit written, physical, and testimonial evidence, and for reasonable questioning of witnesses.
 - e. The accused student may identify an advisor, who may be an attorney, to be present at the hearing. The advisor may only consult privately with the student unless otherwise determined by the university regarding a particular case.
 - f. The student may waive his/her right to a hearing in writing. If so, the sanction recommended by the person filing the referral will be imposed. If the student fails to appear when a hearing has been scheduled, the hearing will be held in the student's absence and the department chair will render a decision based upon factual information presented by the faculty member/administrator.
 - g. Following the hearing, the department chair will render a determination based on the information presented at the hearing. Normally within seven class days of the hearing, the department chair will forward a written report summarizing the hearing that includes the outcome, the factual basis for the

determinations reached, the sanction(s) to be issued, and appeal procedures. Copies of this report will be sent to the student, the faculty member/administrator, and the provost/designee. The department chair will retain a copy for departmental files and electronically record the information for subsequent entry into the computer database.

- h. In the event that a department chair cannot or will not fulfill the above role, or in the event that the person filing the referral is an administrator or department chair, the provost or designee will determine the appropriate individual to fulfill the department chair's role and inform the student and the faculty member/administrator filing charges.
- i. If a prior academic violation(s) for the student is on record, the case must be referred to the Academic Integrity Board which will consider more severe sanctions (see Section D, Multiple Violations). Otherwise, if there is no appeal, the recommended sanction will be imposed.

B. Academic Integrity Board (AIB). The AIB will hear all cases in which appeals to the chair's decision are accepted by the provost/designee (see Appeals section C.1. and C.2.). The AIB will also review sanctions in cases of multiple violations (see Section D).

1. The AIB will be made up of four faculty members, one of whom will chair the board, and two students. A quorum requires the presence of four persons, at least one of whom must be a student. All members, including the chair, are voting members.
2. When an AIB hearing is called for, the AIB will be convened by the provost/designee (currently the assistant to the vice president for Student Affairs). The accused student shall be notified of the time, date, and place of the hearing and the names of those AIB members scheduled to review his/her case. If the hearing is an appeal, this notification will also include details of the charges, including the time, date, and place of the alleged offense(s) and the recommended sanction(s). If the hearing is a review of sanctions in a multiple violation case (see Section D), the notification should also indicate that more severe sanctions might be imposed. The hearing should be scheduled so as to allow the student reasonable time to prepare a defense.
3. Prior to the hearing a student appearing before an AIB may, with good cause, challenge any member on the board sitting in judgment of his/her particular case. When such a challenge is made, an alternate member will be appointed to the AIB.
4. The AIB will review all material and hear all evidence pertinent to the case from the accused and all witnesses. Members of the AIB shall be free to ask relevant questions to clarify information or resulting issues.
5. The student shall have a fair and reasonable opportunity to answer, explain, and defend against information and witnesses presented at the hearing, to submit written, physical, and testimonial evidence, and to call relevant witnesses on his/her behalf.
6. The accused student may identify an advisor, who may

be an attorney, to be present at the hearing. The advisor may only consult privately with the student unless otherwise determined by the university regarding a particular case.

7. After hearing all evidence, the AIB will privately make its decision based reasonably upon the evidence presented. A majority vote of the AIB shall be required for any decision. If the AIB finds the student to have committed the misconduct or infraction, and the student has no prior academic violation(s) on record, it may accept, reduce (but not increase), or modify the recommended sanction. If the student does have a prior academic violation(s) on record, the AIB may increase the recommended sanction (see Section D, Multiple Violations).
8. If the student waives his/her right to a hearing in writing, or chooses not to appear at the AIB hearing, the case will be adjudicated based upon the evidence presented at the scheduled hearing.
9. All hearings are closed unless the student requests an open hearing in writing. The AIB chair has the authority to make the final decision regarding access of spectators at the hearing.
10. The AIB must submit a written report of the decision, normally within seven class days of its decision, to the student, faculty member/administrator, department chair, and provost/designee, who will electronically record the information for subsequent entry into the computer database.

C. Appeals. These appeal procedures apply to cases resolved through formal adjudication. Cases of academic integrity that are resolved through informal resolution or documented agreement cannot be appealed, as the facts of the case, the decision, and sanction(s) have been agreed to by the student and the individual making the charge.

1. If, after receiving the department chair's report on the outcome of the hearing, the faculty/administrator or the student disagrees with either the decision, the sanction, or both, he/she may appeal to the provost/designee, normally within seven class days of receiving the report. This appeal must be in writing and must describe in detail the grounds for the appeal. These reasons may include the following:
 - a. Denial of a fair and reasonable hearing
 - b. New evidence (applies when there is an acceptable reason why the information was not presented at the original hearing)
 - c. Excessively harsh sanctions. Students cannot appeal on the basis of excessively harsh sanctions if the sanctions are specified on the course syllabus, have the prior approval of the department, and apply only to the specific course in which the alleged violation occurred.
2. The provost/designee may deny the appeal or direct the appeal to be heard by an AIB within seven class days. All appeals involving sanctions of involuntary withdrawal from part of IUP's academic or other programs, suspension, or expulsion will be heard by an AIB.

3. Unless the recommended sanction is suspension or expulsion, the decision of the AIB is final and will be implemented by the provost designee, who will electronically record the information for subsequent entry into the computer database.
4. Suspension or expulsion may be recommended by the AIB but can only be implemented by the vice president for Student Affairs (the president's designee for suspension and expulsion), who is responsible for verifying that due process was followed.

D. Multiple Violations

1. Students with multiple academic violations of record will be subject to additional sanctions, including possible suspension or expulsion from the university.
2. Information about prior violations is not relevant to determining whether a student has violated this policy. However, such information is pertinent in determining the appropriate sanction.
3. If a student found in violation of this policy through either Resolution by Documented Agreement or Resolution by Formal Adjudication has a prior academic integrity violation of record, the case will be referred to an AIB.
4. For cases previously resolved by Documented Agreement or through Formal Adjudication at the department chair's level, the AIB will schedule a new hearing. This hearing will review all information pertinent to the determination of an appropriate sanction but will not reconsider the issue of whether the policy violation occurred. After considering the severity of the current and prior violations, the AIB may determine that a more severe sanction is appropriate.
5. For cases being heard by an AIB, the AIB should request information on prior violations only after determining that a violation has occurred. Information on prior violations should be used in determining the appropriate sanction.
6. The AIB must submit a written report of the decision, normally within seven class days of its decision, to the student, faculty administrator, department chair, and provost designee who will electronically record the information for subsequent entry into the computer database.
7. The student may appeal any new sanction(s) to the provost designee. The provost designee may deny the appeal or, on the basis of denial of a fair and reasonable hearing, new evidence, or excessively harsh sanctions, direct the appeal to be heard by the Second AIB. The provost designee will electronically record the information for subsequent entry into the computer database.

E. Sanctions

1. The following sanctions may be agreed upon by the student and faculty member administrator through informal resolution or documented agreement. All grade reductions require the approval of the instructor of record. If the work is graded by a committee, a grade

reduction requires the approval of the majority of the committee.

- a. **Single Grade Reduction:** Reduction of grade or failure on project, examination, quiz, or other academic exercise on which the student is alleged to have cheated.
 - b. **Course Grade Reduction:** Reduction of course grade or failure in the course. If the violation involves a project spanning multiple courses (such as a dissertation or multiple semester internship), the grade reduction may apply to all courses involved.
 - c. **Constructive or Educational Task:** A task which requires the student to examine his/her dishonest behavior and which may benefit the student, campus, or community.
 - d. **Other:** Sanctions deemed appropriate and tailored to a specific violation as determined by the faculty member administrator. Any reasonable sanction or combination of sanctions for a given violation may be agreed upon by the student and faculty member administrator.
2. In addition to the above, the following sanctions might be imposed through formal adjudication.
 - a. **Letter of Warning:** A warning letter may be issued indicating that the student has been found in violation of an academic policy and that failure to comply with policies in the future may result in further disciplinary action to be handled as a second offense. The letter of warning will remain in effect for a period of time as specified by the individual or board hearing the case.
 - b. **Disciplinary Probation:** Disciplinary probation, which is for a period of time specified by the individual or board hearing the case, is an indication that a student's status at the university is seriously jeopardized. If the student is found in violation of another IUP policy during the probationary period, a more serious sanction will be levied, including possible involuntary withdrawal from part of IUP's academic or other programs, suspension, or expulsion from the university.
 - c. **Involuntary withdrawal from part of IUP's academic or other programs:** A student may be denied the right to participate in some segment of IUP's programs. Such involuntary withdrawal might be imposed on either a temporary or permanent basis.
 - d. **Suspension:** A student may be suspended from the university for a specified period of time, not to be less than the remainder of the current semester. Suspension requires that a student remove him/herself from university premises, not attend classes or social activities, and not be present on university or Student Cooperative Association property during the period of suspension.
 - e. **Expulsion:** Expulsion may be considered under any of the following circumstances: when there is a very serious violation of the academic integrity policy,

when a student is proven to have violated the academic integrity policy on more than one occasion, or when a student appears before the board after already having been suspended. Expulsion from the institution is permanent. Appeals to the sanction of expulsion must be submitted to the Office of the President. If necessary, the president will consult with legal counsel in these cases.

Suspension and expulsion can be *recommended* by a faculty member/administrator, department chair, and AIB but can be imposed only by the president's designee for suspension and expulsion (currently the vice president for Student Affairs), who is responsible for verifying that due process was followed.

F. Records and Recordkeeping

1. **Records of Informal Resolution.** Although no official forms are filed at this level of resolution, it is *strongly recommended* that a faculty member/administrator and student who reach an informal agreement put the agreement in writing with a copy to each participant. This protects each party in the event of any future attempt at renegotiation.
2. **Records of Resolution by Documented Agreement.** Documented agreement resolutions are recorded on the computer database of disciplinary files maintained by the assistant to the vice president for Student Affairs. They are not considered formal disciplinary records until and unless the student is found in violation of this policy a second time. They are internal university records used for monitoring students for multiple violations only. If a second documented agreement form is filed or a student is found in violation of the policy through formal adjudication, the student will then have a formal disciplinary record which includes records of both violations. This formal record is maintained according to the IUP judicial system recordkeeping policies.
3. **Records of Formal Adjudication.** Records of academic integrity cases resolved through formal adjudication are recorded on the computer database of disciplinary files maintained by the Office of the Assistant to the Vice President of Student Affairs. They are maintained as formal disciplinary records in accordance with IUP judicial system recordkeeping policies. Records of cases involving suspension or expulsion must be maintained for a minimum of two years.

G. Operational Notes

1. In cases where a violation is alleged at or near the end of the semester and resolution by informal resolution, documented agreement, or formal adjudication cannot be completed before grades are submitted, the faculty member should submit a designation of "Incomplete" (I) for the student. The "I" designation will remain on the student's record until the case has been resolved. Once the case has been resolved, the "I" designation will be replaced with the appropriate grade.
2. If the violation is alleged during the semester when classes are in session, the accused student should continue attending all classes and continue to complete course requirements during the resolution of the academic integrity case.

3. The provost/designee may extend any deadline which cannot be met for what he/she deems legitimate reason.
4. Requests to constitute the AIB for hearings will be directed to the provost/designee (currently the assistant to the vice president for Student Affairs).
5. The university may withhold transcripts, grades, diplomas, or other official records pending the disposition of cases, if such action is reasonably necessary to preserve its ability to enforce its rules.
6. The provost/designee may modify the procedural provisions of these rules by the issuance of written orders to deal with particular unusual procedural situations, so long as no order shall contradict the rules of the Board of Governors of the State System of Higher Education governing due process for students, and no such rule shall deny fundamental fairness to students by, for example, effectively constituting a denial of notice or opportunity to be heard.
7. This policy will be reviewed by the Senate Academic Committee after five years.

The various forms described in this policy are available from the assistant vice president for Student Affairs, 215A Sutton Hall, deans' offices, or department chairs. Questions concerning the Academic Integrity Policy and Procedures can be directed to the assistant vice president for Student Affairs, 215A Sutton Hall.

Approved by Council of Trustees—May 15, 1998

Course Prefix Key

The following abbreviations are used to identify courses referred to in the catalog:

Accounting	ACCT	Foundations of Education	FDED
Administration and Leadership Studies	ALS	Geography and Regional Planning	GEOG
Adult and Community Education	ACE	Geoscience	GEOS
Anthropology	ANTH	Graduate General Service	GSR
Applied Music	APMU	Health and Physical Education	HPED
Art	ART	History	HIST
Art Education	ARED	Human Services	HMSV
Art History	ARHI	Industrial and Labor Relations	ILR
Biology	BIOL	Information Management	IFMG
Business Technology Support and Training	BTST	Instructional Programs and Resources in Education	EDIR
Business Technology Education	BTED	Literacy	LTCY
Business Law	BLAW	Management	MGMT
Chemistry	CHEM	Marine Science	MRSC
Child Development and Family Relations	CDFR	Marketing	MKTG
Communications Media	COMM	Master's in Education	MEDU
Computer Science	COSC	Mathematics	MATH
Counselor Education	COUN	Music	MUSC
Criminology	CRIM	Music History	MUHI
Curriculum and Instruction	CURR	Nursing	NURS
Early Childhood Education	ECED	Philosophy	PHIL
Economics	ECON	Physics	PHYS
Education Administration	EDAD	Political Science (Public Affairs)	PLSC
Education of Exceptional Persons	EDEX	Psychology	PSYC
Education of Persons with Hearing Loss	EDHL	Rehabilitation	RHAB
Educational and School Psychology	EDSP	Quantitative Business	QBUS
Education	EDUC	Safety Sciences	SAFE
Elementary Education	ELED	Sociology	SOC
Elementary Mathematics	ELMA	Speech-Language Pathology	SPLP
English	ENGL	Student Affairs in Higher Education	SAHE
Finance	FIN	Theater	THTR
Food and Nutrition	FDNT	Vocational Education	VOED

38 Eberly College of Business and Information Technology

The Eberly College of Business and Information Technology offers two graduate programs: the Master of Business Administration (M.B.A.) with full-time, part-time evening, and executive tracks (Pittsburgh area and Johnstown locations) and the Master of Education in Business/Workforce Development (M.Ed.).

Master of Business Administration (M.B.A.)

The Master of Business Administration degree program is designed to serve the needs of junior- and intermediate-level business executives who are seeking additional knowledge and skills to do a more efficient job of problem solving and decision making. Also, the program is structured to give recent college graduates advanced training in business management prior to entry into a business career. The M.B.A. may be taken on either a part- or full-time basis. Courses are scheduled for both day and night sessions, including a full schedule of course offerings in the summer.

Core I of the program consists of ten undergraduate prerequisite courses (31 cr.) that are designed to provide a foundation in the basic concepts and techniques used in today's business world and prepare the student for the graduate courses in business administration.

Core II of the program consists of 33 credit hours in courses that provide advanced knowledge in the functional and applied areas of business. The 33 credit hours consist of eleven graduate courses (eight required courses and three elective courses chosen by the student from an approved list). Students are not required to have a specific major in the M.B.A. program. The objective of the program is to offer the student either the opportunity to sample a variety of fields of business or to develop depth in one special area of interest.

Normally, a student with a recent bachelor's degree in Business Administration from a fully accredited university will have completed all of the Core I courses. This will enable the student to complete the M.B.A. program in one year of full-time study, whereas a nonbusiness major will require two years—one year for the Core I or undergraduate courses and one year for the Core II or graduate course requirements. Part-time students typically require between two and five years to complete the program.

Students who have been admitted to the M.B.A. program and who have Core I prerequisites remaining may receive special permission to take some of the courses elsewhere. Students must receive specific permission for all such courses from the Eberly College of Business and Information Technology graduate coordinator. Also, it is possible to complete some of these courses by examination only. Again, advance permission is required.

Admissions Criteria

In addition to meeting admission requirements of the School of Graduate Studies and Research, students seeking enrollment in the M.B.A. program must achieve a satisfactory score on the Graduate Management Admission Test (GMAT) before admission to the degree program. Information about the GMAT can be obtained from the Educational Testing Service, Princeton, NJ 08540 or from IUP University Testing Services, which is located in Career Services (724-357-2235).

Program Requirements

Core I

31 cr. in the following undergraduate courses with a grade of "C" or better:

ACCT 201	Accounting Principles I	3 cr.
ACCT 202	Accounting Principles II	3 cr.
BLAW 235	Introduction to Business Law	3 cr.
ECON 122	Principles of Economics II	3 cr.
FIN 310	Finance I	3 cr.
IFMG 300	Information Systems: Theory and Practice	3 cr.
MATH 121	Calculus I for Business, Natural, and Social Sciences	4 cr.
MGMT 310	Principles of Management	3 cr.
MKTG 320	Principles of Marketing	3 cr.
QBUS 215	Business Statistics	3 cr.

Students will be given credit for Core I undergraduate prerequisite courses taken at IUP or at other appropriate institutions with prior permission. See the IUP *Undergraduate Catalog* for course descriptions.*Students should contact the Eberly College of Business and Information Technology graduate coordinator to ascertain the appropriateness of prior undergraduate work and any special requests for prerequisite waivers. Prior written permission is required to take courses at any other institutions.

*Some of the Core I course requirements may be fulfilled by a successful completion of College Level Examination Program (CLEP) tests in these subjects.

Core II

33 cr. in the following graduate courses:

A. Required:

ACCT 607	Management Accounting**	3 cr.
ECON 634	Economics of Corporate Decisions	3 cr.
FIN 630	Financial Management	3 cr.
IFMG 640	Management Information Systems	3 cr.
MGMT 613	Organizational Analysis	3 cr.
MGMT 695	Business Policy	3 cr.
MKTG 603	Marketing Management	3 cr.
QBUS 601	Quantitative Methods	3 cr.

**Not open to students who have taken ACCT 311 Cost Accounting or its equivalent.

B. Three courses chosen by the student in the following elective graduate courses:

Accounting:

ACCT 501	Advanced Accounting	3 cr.
ACCT 512	Advanced Cost Accounting	3 cr.
ACCT 531	Auditing	3 cr.
ACCT 608	Seminar in Accounting Issues	3 cr.
ACCT 610	Accounting Systems	3 cr.
ACCT 612	Advanced Tax Accounting	3 cr.
ACCT 613	Financial Statement Analysis	3 cr.

Business Technology Education:

BTED 610	Business Communications and Report Writing	3 cr.
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Business Law:

BLAW 633	Case Problems in Business Law	3 cr.
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Finance:

FIN 510	Financial Institutions and Markets	3 cr.
FIN 520	Investment Analysis	3 cr.
FIN 522	Seminar in Finance	3 cr.
FIN 631	Advanced Financial Management	3 cr.
FIN 632	Seminar in Finance	3 cr.
FIN 635	Principles of Investments in Securities	3 cr.

Management Information Systems:

IFMG 550	Database Theory and Application	3 cr.
IFMG 551	Systems Analysis	3 cr.
IFMG 570	Systems Design	3 cr.
IFMG 580	Distributed Business Information Systems	3 cr.
IFMG 641	Business Data Processing I	3 cr.
IFMG 642	Business Data Processing II	3 cr.

Management:

MGMT 623	Seminar in Personnel	3 cr.
MGMT 630	Management Theory	3 cr.
MGMT 631	Management Development and Training	3 cr.
MGMT 635	Seminar in Management and Organizational Leadership	3 cr.
MGMT 636	The Evolution of Management	3 cr.
MGMT 642	Organizational Behavior	3 cr.
MGMT 645	Case Problems in Business Human Relations	3 cr.
MGMT 651	International Management	3 cr.
MGMT 652	Comparative Management	3 cr.
MGMT 654	Managing Global Competition	3 cr.

Marketing:

MKTG 521	Marketing Research	3 cr.
MKTG 530	International Marketing	3 cr.
MKTG 531	Industrial Marketing	3 cr.
MKTG 610	Marketing Behavior	3 cr.
MKTG 611	Marketing Communications	3 cr.
MKTG 621	Marketing Research	3 cr.

Quantitative Business:

QBUS 602	Seminar in Management Science	3 cr.
QBUS 604	Seminar in Methodology of Business Research	3 cr.

Other: 581/681 Special Topics courses offered with the following prefixes: ACCT, BLAW, FIN, IFMG, MGMT, MKTG, and QBUS; other business-related courses with prior approval of the Eberly College of Business and Information Technology graduate coordinator. No more than six credits of Special Topics may apply toward a degree.

Students may take one 500-level course without permission of the Eberly College of Business and Information Technology graduate coordinator. Additional 500-level courses require prior written approval. Students may elect one graduate-level course outside the Eberly College of Business and Information Technology in related fields as an elective with prior approval of the Eberly College of Business and Information Technology graduate coordinator. Examples of such areas may include Labor Relations, Economics, and other related fields.

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Master of Business Administration—Executive Track (M.B.A.)

The Master of Business Administration—Executive Track Program is designed to serve the needs of experienced managers from industrial, financial, nonprofit, and small business as well as the public sector and allows them to earn an M.B.A. degree without interrupting their careers. A Saturday-only class format allows participants to complete a master's degree in Business within two years at a convenient time and location. A lock-step format in which members of each class begin the program at the same time, do all the required courses together, and typically complete the program as a group facilitates the formation of long-term study groups and extends a peer group or cohort experience to the participants that becomes a long-lasting network which develops both business and social contacts. Limited class size with careful selection of participants insures a wide variety of professional backgrounds. An opportunity to experience such a learning forum provides exposure to peers from all organizational settings in a cohesive, networking environment.

The M.B.A.—Executive Track program offered by IUP constitutes a demanding experience for participants. The program prepares each individual to accept increased responsibilities in general management. The curriculum offers broad training in foundations of management and basic analytical techniques while exposing students to contemporary management tools and technologies. The prevailing theme of the program is the emphasis on strategic decision making in a changing global environment.

Admissions Criteria

Undergraduate degree (no specific major), official GMAT scores, three or more years of supervisory managerial professional experience, and nomination and full sponsorship by an organization (preferred).

Participants who have not had recent academic training are expected to update their mathematical and calculus skills concurrent with or before beginning the M.B.A.-Executive Track Program.

Program Requirements

The program will include a one-day, mandatory, on-campus orientation period for all students. Students will be introduced to graduate faculty members and will be exposed to campus-based facilities and resources. Students will have an opportunity in a social setting to discuss program objectives characteristics with graduate faculty members and the administration of the college.

40 Fifty-one semester hours of 500- and 600-level course work (42 credits of core courses and 9 credits of electives to be chosen by the group) as follows:

A. Required

First Year Fall:

ACCT 502	Foundations of Financial Accounting	3 cr.
QBUS 500	Foundations of Business Statistics	3 cr.
ECON 501	Foundations of Modern Economics	3 cr.

Spring:

ACCT 607	Management Accounting	3 cr.
MGMT 613	Organizational Analysis	3 cr.
QBUS 601	Quantitative Methods	3 cr.

Summer:

IFMG 640	Management Information Systems	3 cr.
MKTG 603	Marketing Management	3 cr.
ECON 634	Economics of Corporate Decisions	3 cr.

Second Year Fall:

BLAW 633	Case Problems in Business Law	3 cr.
MGMT 632	Operations Management	3 cr.
FIN 630	Financial Management	3 cr.

Spring:

MGMT 651	International Management	3 cr.
MGMT 695	Business Policy	3 cr.
Elective		

Summer:

Two Electives

B. Electives will be chosen by each M.B.A.-Executive Track group from the list of available graduate elective courses in Business Administration or related fields.

Fall, Spring, and Summer semesters all have fourteen weeks.

Students who enter the M.B.A.-Executive Track Program in a fixed cohort group and decide to drop out will be given credit toward the regular M.B.A. course requirements and will be given the opportunity to complete the program in an alternative mode.

Department of Technology Support and Training

Master of Education in Business/Workforce Development (M.Ed.)

The Master of Education in Business/Workforce Development, offered by the Department of Technology Support and Training, is designed to meet the needs of a wide variety of individuals. This program includes a common core of 18 credits plus 12 credits in one of three areas of specialization—Business, Workforce, and Administrative. Within each area of specialization, students are encouraged to enroll in courses that meet their professional areas of interest.

The **Business Specialization** is of interest to individuals desiring to enhance their knowledge of pedagogy, study current business issues and trends, and expand the use of technology in the learning environment. In addition, an opportunity is available for an individual to complete the requirements for initial Pennsylvania K-12 teaching certification in Business, Computer, and Information Technology (business education)—this opportunity requires the completion of additional coursework beyond the 30 credits required for the M.Ed.

The **Workforce Specialization** is of interest to individuals desiring to broaden their understanding of business, to enhance their knowledge of industry training, and to update their understanding of new technologies used in the workforce.

The **Administrative Specialization** provides an option for candidates interested in curriculum development and supervision of vocational programs. An enhancement of this specialization is the opportunity to complete the requirements for Pennsylvania Department of Education certification as a supervisor of vocational education. This opportunity requires the completion of additional course work beyond the 30 credits required for the M.Ed.

Courses can be taken on either a full- or part-time basis, with classes offered during the evening; a full schedule of course offerings is available in the summer. Needs of each student are addressed through individual attention, flexible scheduling, and opportunities for original research.

Upon admission to the School of Graduate Studies and Research, the student is assigned an advisor to assist in tailoring the program to meet individual goals. This flexibility is a key feature of the program.

I. Professional Development Area

9cr.

A. * Humanistic Studies (3cr.) – One of the following:

FDED 514	Comparative Foundations of Education	3cr.
FDED 611	Historical Foundations of Education	3cr.
FDED 612	Philosophical Foundations of Education	3cr.
FDED 613	Social Foundations of Education	3cr.

B. * Behavioral Studies (3cr.) – One of the following:

COUN 639	Group Counseling	3cr.
EDSP 677	Advanced Psychology of Adolescent Education	3cr.
EDSP 679	Advanced Studies in Behavior Problems	3cr.
EDSP 578	Learning	3cr.
EDSP 604	Advanced Educational Psychology	3cr.
EDEX 650	Exceptional Children and Youth	3cr.

C. Elements of Research (3cr.)

GSR 615 Elements of Research 3cr.

II. Business/Workforce Core 9cr.

BTST 650 Issues and Trends in Business/
Workforce Development 3cr.

BTST 656 Applied Research in Business/
Workforce Development 3cr.

BTST 670 Administrative Communications 3cr.

III. Specialization 12cr.

Student will select one of the three specialization areas.

A. Business Specialization (12cr.)

BTST 642 Training and Development in
Business/Workforce Development 3cr.

BTST 680 Technical Update 3cr.

*** Advisor Approved Elective 3cr.

*** Advisor Approved Elective 3cr.

B. Workforce Specialization (12cr.)

BTST 642 Training and Development in Business/
Workforce Development 3cr.

BTST 680 Technical Update 3cr.

BTST/COMM 614 Instructional Computing Basics 3cr.

BTST/COMM 631 Interactive Multimedia 3cr.

C. Administrative Specialization (12cr.)

BTED/VOED 600 Curriculum Development in Vocational
Education 3cr.

BTED/VOED 601 Curriculum and Instructional
Leadership in Vocational Education 3cr.

BTED/VOED 602 Conference Leadership and
Communication Methods 3cr.

EDSP 577 Assessment of Student Learning:
Design and Interpretation of
Educational Measures 3cr.

IV. Certificate Option 21 cr.**

*Pennsylvania Business, Computer and Information Technology

Certification

BTED 693 Seminar in Teaching Business Subjects 3 cr.

EDSP 604 Advanced Educational Psychology 3 cr.

BTED 694 Clinical Studies in Business Education 3 cr.

EDSP 577 Assessment of Student Learning:
Design and Interpretation of
Educational Measures 3 cr.

BTED 695 Professional Semester (Student
Teaching) 6 cr.

EDEX 650 Exceptional Children and Youth 3 cr.

* Must meet ECOBIT undergraduate core business education requirements (see current undergraduate catalog).

** Certification candidates must meet teacher certification requirements of IUP College of Education and Educational Technology.

*** Electives selected based on individual candidate's background.

According to Pennsylvania Commonwealth Guidelines, students must be certified K-12 and not in separate areas.

42 College of Education and Educational Technology

The College of Education and Educational Technology offers a variety of master's programs and doctorates in School Psychology, Curriculum and Instruction, and Administration and Leadership Studies. Certification programs approved by the Pennsylvania Department of Education are offered for Elementary and Secondary Guidance and Counseling, Reading Specialist, Speech-Language Pathologist, Elementary and Secondary School Principal, School Psychologist, Instructional Technology Specialist, and the letter of eligibility for School Superintendency. Other certification programs are offered at the undergraduate level.

A Performance-Based Principal Certification Program

Each year, approximately twenty students are admitted into this innovative principal certification program. All candidates must schedule an interview with the program director before being recommended for admission into the School of Graduate Studies and Research. Once admitted, all candidates attend one class during the summer session here at IUP. The remaining program requirements are completed at the candidate's school throughout the academic year.

Department of Adult and Community Education

Master of Arts in Adult and Community Education

The Master of Arts in Adult and Community Education (ACE) is designed to develop leaders in the fields of adult and community education. Graduates from the program work in business and industry, hospitals and health-related institutions, community agencies, governmental offices and agencies, the military, religious organizations, volunteer associations, and many other human services organizations. The program assists professionals in acquiring skills to develop and implement educational and other programs designed for adults in a wide variety of settings.

The ACE program addresses the needs of each student through individualized programming and flexible scheduling. Students are encouraged to relate theory and course content to their specific areas of interest. The program offers a balance of academic preparation, practical field experience, and individual research and emphasizes the application of theory to practice and the development of theory from practice.

In addition to the regular School of Graduate Studies and Research requirements, applicants for the M.A. in Adult and Community Education are required to submit a resume and writing sample as well as participate in an in-depth interview with program faculty. The program can be completed at the IUP Monroeville Center as well as at the IUP main campus in Indiana.

Program Requirements

		Non-Thesis*	Thesis
ACE 620	Introduction to Adult and Community Education	3 cr.	3 cr.
ACE 621	The Adult Learner	3 cr.	3 cr.
ACE 622	Program and Process Development in ACE	3 cr.	3 cr.
ACE 623	Organization and Administration in ACE	3 cr.	3 cr.
ACE 625	Facilitating Adult Learning	3 cr.	3 cr.
ACE 735	Seminar in ACE	3 cr.	3 cr.
ACE 740	Internship in ACE	6 cr.	6 cr.
ACE 745	Practical Research in ACE	3 cr.	**3 cr.
ACE 850	Thesis	—	3 cr.
GSR 615	Elements of Research	3 cr.	3 cr.
Electives		6 cr.	3 cr.
Total		36 cr.	36 cr.

* A comprehensive examination is required for non-thesis option students.

** ACE 745 is recommended as an elective for thesis option students.

Master of Arts in Adult Education and Communications Technology Track

Adult education is a fast-growing field which encompasses the development, delivery, and evaluation of education programs in a broad variety of settings, including business and industry, community colleges, health care, community and social agencies, higher education, corrections, and vocational education. Communications Media is the application of current and emerging technologies to enhance and supplement the delivery of educational and informational programs. The combination of the theory and research from Adult Education and the knowledge and skills in the use of technology from Communications Media will place graduates of the program in an advantageous position in the labor market.

Graduates should be competitive for such employment opportunities as human resources developers in business and industry; production positions in education, business, and government; public relations positions in the public, private, and nonprofit sectors; entrepreneurs in the rapidly developing market of external program delivery to government, business, and education; and a variety of other jobs which involve the delivery of education and training and the use of technology.

The purpose of the program is to help students acquire knowledge and skills in theory and research in adult education and in the applications of current and emerging production technologies. Upon completion of the program, students will be able to:

1. understand and apply the dynamics of adult development and learning theory to the design and implementation of educational programs and media selection and use
2. develop needs assessment procedures to make decisions regarding educational programs and media use
3. develop goals and objectives for the design of educational material and the selection and use of media
4. develop plans of action for educational programs and the use of technology
5. select, design, produce, and evaluate target media
6. develop formative and summative evaluation procedures for educational programs and media selection and use
7. design educational experiences using instructional design and other systematic approaches
8. conduct meaningful educational experiences using appropriate adult education methods
9. manage and administer educational and media programs and events

Program Requirements

I. Core Courses			27 cr.
ACE 621	The Adult Learner	3 cr.	
ACE 622	Program and Process Development in ACE	3 cr.	
ACE 623	Organization and Administration in ACE	3 cr.	
ACE 625	Facilitating Adult Learning	3 cr.	
ACE 750	Seminar: Technology and Adult Learning	3 cr.	
COMM 600	Instructional Design and Development	3 cr.	
COMM 601	Media Production	3 cr.	

COMM 614	Instructional Computing Basics	3 cr.	
COMM 631	Interactive Multimedia	3 cr.	
II. Research Requirements			3 cr.
GSR 615	Elements of Research	3 cr.	
III. Either			
A. Thesis Option			3 cr.
ACE/COMM 850	Thesis	3 cr.	
or			
B. Non-Thesis Option			6 cr.
(Six credits of the following)			
COMM 698	Internship	3-6 cr.	
Electives (As approved by advisor)		3-6 cr.	
Total (Thesis Option)			33 cr.
Total (Non-Thesis Option)			36 cr.

Instructional Technology Specialist Certification

The Instructional Technology Specialist (ITS) Certification is an advanced certification issued by the Pennsylvania Department of Education. ITS personnel serve as instructional technology specialists in schools, school districts, and intermediate units to assist school faculty and administrators to learn to use technology and incorporate technology into their teaching. The ITS certification is not a teaching certification; a separate certification is required to teach K-12 students in Pennsylvania public schools. Students wishing to acquire the ITS certification must meet the following requirements:

1. Complete the entire Master of Arts program including all required classes.
2. Obtain Act 34 and 151 clearances.
3. Complete an approved internship in a school or intermediate unit.
4. Submit all forms and fees required by the Pennsylvania Department of Education.
5. Take and pass the PPST Praxis I test for reading, writing, and mathematics.

Department of Counseling

Master of Arts in Community Counseling

The Master of Arts degree program in Community Counseling is designed to prepare students to work in a variety of settings, including mental health centers, drug and alcohol treatment programs, specialized community agencies, vocational or rehabilitation programs, correctional institutions, health care settings, social services, and business and industry. The counseling curriculum is based on the educational standards as set forth by the National Board for Certified Counselors. Students who successfully complete their course work will be eligible to take the National Counselor Examination for Licensure and Certification. Upon passing the exam, students will be board eligible counselors.

Students enrolled in the Master of Arts degree program will complete 45 (plus thesis) or 48 hours of credit for the degree. The program requires the following courses or their equivalents:

Master of Arts in Community Counseling

I. Core Courses			36 cr.
COUN 610	Introduction to Community Counseling	3 cr.	
COUN 615	Counseling Across the Life Span	3 cr.	
COUN 617	Basic Counseling Skills	3 cr.	
COUN 618	Diversity Issues in Counseling	3 cr.	
COUN 634	Mental Health Appraisal	3 cr.	
COUN 636	Career Counseling and Development	3 cr.	
COUN 730	Ethical and Legal Issues in Community Counseling	3 cr.	
COUN 755	Field Experience	3 cr.	
GSR 615	Elements of Research	3 cr.	
Electives		9 cr.	
II. Application of Counseling Courses—Based on Client Population			12 cr.
A. Students planning to work primarily with adolescents and/or adults take the following:			
COUN 637	Counseling Theory (adolescent/adult)	3 cr.	
COUN 639	Group Counseling (adolescent/adult)	3 cr.	
COUN 657	Individual Counseling Practicum (adolescent/adult)	3 cr.	
COUN 659	Group Counseling Practicum (adolescent/adult)	3 cr.	
or			
Students planning to work primarily with children take the following:			
COUN 627	Child Counseling Theory	3 cr.	
COUN 629	Group Procedures (child)	3 cr.	
COUN 667	Individual Counseling Practicum (child)	3 cr.	
COUN 669	Group Counseling Practicum (child)	3 cr.	
Total			48 cr.

M.A. students will not receive credit for COUN 624 Educational Appraisal or COUN 720 Ethical and Legal Issues in School Counseling.

Prospective students for the Master of Arts in Community Counseling must meet departmental admissions requirements and procedures in addition to those of the School of Graduate Studies and Research. Prospective students should contact the department to determine these requirements. Applicants are required to attend an admission workshop as the final step in the admissions process. Workshops are held three times a year, and applicants should contact the department to obtain the dates of workshops and deadlines for **completed applications** to be received by the School of Graduate Studies and Research.

Master of Education in School Counseling Certification

Elementary and Secondary School Counselors—To qualify for institutional endorsement and commonwealth certification, students must complete a 48-credit-hour competency-based program to include a series of counseling skills courses, including individual and group counseling, and complete a field experience under the supervision of a certified school counselor.

While teaching experience is not a prerequisite for admission and school counselor certification in Pennsylvania, students are expected to possess an understanding of educational philosophy and child or adolescent growth and development. They should also understand the basic principles of psychology, sociology, and learning theory. Students lacking prerequisite understandings will

be expected to meet these deficiencies during their course of study.

Students seeking commonwealth School Counseling certification will take the following:

Master of Education in School Counseling Certification

I. Core Courses			36 cr.
COUN 615	Counseling Across the Life Span	3 cr.	
COUN 617	Basic Counseling Skills	3 cr.	
COUN 618	Diversity Issues in Counseling	3 cr.	
COUN 621	Introduction to Guidance Services	3 cr.	
COUN 624	Educational Appraisal	3 cr.	
COUN 626	Career Education	3 cr.	
COUN 628	Management of Guidance Services	3 cr.	
COUN 720	Ethical and Legal Issues in School Counseling	3 cr.	
COUN 755	Field Experience	3 cr.	
FDED 611	Historical Foundations of Education	3 cr.	
or			
FDED 612	Philosophical Foundations of Education		
or			
FDED 613	Social Foundations of Education		
GSR 615	Elements of Research	3 cr.	
Electives		3 cr.	
II. Application of Counseling Courses—Based on School Setting			12 cr.
A. Students planning to work in the secondary school setting and who are seeking secondary school counseling certification will take the following:			
COUN 637	Counseling Theory (adolescent/adult)	3 cr.	
COUN 639	Group Counseling (adolescent/adult)	3 cr.	
COUN 657	Individual Counseling Practicum (adolescent/adult)	3 cr.	
COUN 659	Group Counseling Practicum (adolescent/adult)	3 cr.	
or			
B. Students planning to work in the elementary school setting and who are seeking elementary school counseling certification will take the following:			
COUN 627	Child Counseling Theory	3 cr.	
COUN 629	Group procedures (child)	3 cr.	
COUN 667	Individual Counseling Practicum (child)	3 cr.	
COUN 669	Group Counseling Practicum (child)	3 cr.	
Total			48 cr.

M.Ed. students will not receive credit for COUN 634 Mental Health Appraisal or COUN 730 Ethical and Legal Issues in Community Counseling.

Prospective students for the Master of Education and school certification programs must meet departmental admissions requirements and procedures in addition to those of the School of Graduate Studies and Research. Prospective students should contact the department to determine these requirements. Applicants are required to attend an admission workshop as the final step in the admissions process. Workshops are held three times a year, and applicants should contact the department to obtain the dates of workshops and deadlines for **completed applications** to be received by the School of Graduate Studies and Research.

School Counseling Certification Only

Those students already possessing a master's degree and desiring School Counseling certification (elementary or secondary) may apply to the counseling program for "Certification Only" status. Applicants should contact the department to have their graduate transcript(s) evaluated to determine necessary course work to complete commonwealth graduate certification requirements. Applicants for "Certification Only" must meet similar admission requirements as degree-seeking applicants; these requirements include a minimum 3.5 graduate grade point average.

License Only Option

The License Only Option for admission is designed for individuals who need additional credits to meet state standards for licensure. In order to be eligible for the License Only Option, individuals need to have completed a minimum of a 36-credit-hour master's degree and meet grandparenting criteria as outlined by the licensure board **OR** individuals need to have completed a minimum of a 48-credit master's degree. Applicants should contact the department to have their transcript(s) evaluated in order to determine in which courses they could enroll. The final determination of course acceptability for licensure is made by the state licensing board. If a student has a question about a course being accepted for licensure or about meeting grandparenting criteria, he or she should contact the licensure board directly. Applicants for the "License Only" status must meet the same admissions requirements as degree-seeking applicants; these requirements include a minimum 3.5 graduate grade point average.

Department of Educational and School Psychology

Program Description

The Master of Education degree in the Educational Psychology Program (33 to 36 credits, depending upon choice of thesis or non-thesis option) has been designed to give the interested student a broad theoretical and practical background in the areas of education and psychology. The program will be of interest to those planning to pursue certification in school psychology after the master's degree, to those wishing to broaden their understanding of human development and learning, or to those wishing to learn more about educational evaluation and research.

The school psychology program at Indiana University of Pennsylvania is a multiple-entry-level graduate program culminating with a specialist certificate as a school psychologist in the Commonwealth of Pennsylvania and/or a Doctorate of Education in school psychology. An individual with a bachelor's degree may enter the program as a master's degree candidate and, upon completion of the master's-level course work, may apply for acceptance into the post-master's school psychology certification program. Students showing exceptional potential may be invited to apply directly to the doctoral program, receiving certification as school psychologists as they progress towards the doctorate. These students are designated as Track A doctoral students.

Individuals who already possess a master's degree from an accredited institution may apply directly into the post-master's portion of the program but may be required to make up certain master's degree courses. Those students take 66-69 credits for the specialist certificate, while completion of the entire doctoral program involves 102-111 credits beyond the bachelor's degree, depending on the student's level at entry.

A student who is already certified as a school psychologist, through another fully accredited institution, may apply directly to the doctoral program. The sequence of courses required of these students is determined by a review of their past training and their performance on both a content and practicum competency evaluation. The core program for the doctoral sequence for students entering at this level is 42 credits beyond specialist certification. These students are designated as Track B doctoral students.

Admission into the program at all levels is based upon evidence of previous scholarship and/or potential for academic success, personal and professional qualities deemed necessary to function as a school psychologist, and motivation for professional excellence and leadership in the field. Continuous enrollment of a minimum of 9 credit hours per semester or 6 credit hours per summer session is required unless waived by the student's advisor and the school psychology committee.

Both the specialist-level and doctoral programs are accredited by the National Association of School Psychologists and National Council for Accreditation of Teacher Education.

Master's of Education in Educational Psychology

General Requirements—All students must complete coursework in the following areas: Professional Development (9 credits), Humanistic Studies (3 credits), Behavioral Studies (3 credits), Subject Area (6 credits), Research (6 credits), and Electives (9 credits, non-thesis option). All electives must be approved by the student's departmental advisor and may be chosen to enhance the student's interest in school psychology, human development and learning, or educational evaluation and research.

Post-Master's Certification

The Certification in School Psychology (33 semester hours) is designed to provide the student with specific clinical skills necessary to function as a school psychologist. Courses focus on the multiple roles of the school psychologist, counseling, assessment, intervention, consultation, biological bases of behavior, exceptionality, law/ethics, and the use of psychological skills in multicultural educational settings. Course work will include: Assessment for Intervention I (EDSP 712); Assessment for Intervention II (EDSP 713); Instructional Consultation (EDSP 718); Neuropsychology of Children's Learning Disorders (EDSP 742); Assessment of Personality and Behavior Problems of Children (EDSP 763); Practicum II (EDSP 750); Advanced Social Psychology (PSYC 658); and an internship (School Rotation) (EDSP 751) of one academic year, usually completed full-time in a school setting (a minimum of 600 hours must be completed in a school setting).

Students must maintain a grade point average of at least 3.25 and a grade of B or better in all department courses.

Doctor of Education in School Psychology

The doctoral program is designed to enhance the generalist competencies of the school psychologist and to allow the student to gain advanced skills in research and a specialty in either neuropsychology and learning disorders or family-school relations. In addition to seminars in advanced issues in assessment and intervention (EDSP 764, EDSP 765), the core courses include two advanced research courses (EDSP 715, EDSP 716) and four courses emphasizing applied clinical skills in the above specialty areas. Doctoral students take a three-credit practicum, a three-credit, school-based internship (1,300 clock hours), a three-credit specialty internship (300 clock hours), and a nine-credit dissertation to complete the doctoral degree. Half of a student's total school psychology internship must be completed in a school setting.

Admission to the Master's Program

46 Individuals seeking initial admission to any departmental program must complete both a School of Graduate Studies and Research application and a departmental application. Once all application materials (including completed application forms, two letters of recommendation, transcripts, and GRE scores for the aptitude portion of the exam only) have been received, the school psychology program committee will review applications and select applicants for interviews. Following these interviews, the committee will forward to the School of Graduate Studies and Research recommendations regarding admission into the program. The School of Graduate Studies and Research, in turn, will communicate an admission decision to the applicant.

Admission to the program is based upon an evaluation of undergraduate and graduate transcripts, recommendations, GRE test scores, work history, professional goals, and personal characteristics as determined in the admission interview. No one criterion dominates in the admission decision, provided there is evidence of the basic ability to do graduate work.

Admission to Certification and Doctoral Programs

Students who are progressing successfully through the master's program may apply for the specialist (certification) program or directly to the doctoral program. Students who are accepted as Track A doctoral students may enroll in selected doctoral-required courses as they progress through the certification program. It is expected that the majority of the doctoral requirements will be completed in the two summers following the specialist-level internship so as to maintain program continuity. A student who has a lapse in program enrollment without faculty approval may be required to reapply to the program.

For Track B students, special admission and program planning procedures have been developed so that employed school psychologists, certified through a fully accredited university training program, may be admitted to the doctoral program. In addition to the completed application forms, undergraduate and graduate transcripts, two letters of recommendation (one of which must be from a direct supervisor), and GRE scores for the aptitude and advanced test in psychology, the student must present evidence of obtaining a passing grade on the School Psychology Praxis exam.

Upon admission, these Track B students must undergo a transcript review and candidacy exam to evaluate their past

training and current competencies. Based on the transcript review, the candidacy exam, and observation of their clinical skills in EDSP 750 (Practicum I), a plan of study is developed. Additional courses beyond those required in the doctoral course sequence may be needed to fill gaps in the student's training or competence.

Master's Degree Program (M.Ed. in Educational Psychology)

Thesis option, 33 cr.

Non-Thesis option, 36 cr.

A. Professional Development			9 cr.
EDSP 604	Advanced Educational Psychology	3 cr.	
EDSP 653	Crisis Intervention and Psychological Counseling of Exceptional Children	3 cr.	
EDSP 675	Learning and Instruction	3 cr.	
B. Humanistic Studies			3 cr.
PSYC 636	Personality Theory	3 cr.	
or			
PSYC 658	Advanced Social Psychology*	3 cr.	
C. Behavioral Studies			3 cr.
EDSP 679	Advanced Studies in Behavioral Problems	3 cr.	
D. Subject Area			6 cr.
EDEX 650	Exceptional Children and Youth	3 cr.	
EDSP 677	Advanced Psychology of Adolescent Education	3 cr.	
E. Research			6 cr.
GSR 615	Elements of Research	3 cr.	
EDSP 616	Applied Educational Research Methods	3 cr.	
F. Psychology Core Electives—Non-thesis Option			9 cr.
PSYC 610	Historical Trends in Psychology*	3 cr.	
EDSP 649	Practicum I**	3 cr.	
Elective (advisor approval)		3 cr.	
or			
Thesis Option			6 cr.
EDSP 850	Thesis	6 cr.	
Total			33 or 36 cr.

* Recommended for those continuing in school psychology doctoral program.

** Required for those continuing in school psychology certificate or doctoral program.

Doctoral Program (D.Ed. in School Psychology)—Track A

Certification Sequence			
EDSP 711	Introduction to School Psychology	3 cr.	
EDSP 712	Assessment for Intervention I	3 cr.	
EDSP 713	Assessment for Intervention II	3 cr.	
EDSP 718	Instructional Consultation	3 cr.	
EDSP 742	Neuropsychology of Children's Learning Disorders	3 cr.	
EDSP 750	Practicum II (6 semester hours)	6 cr.	
EDSP 751	Internship (school rotation—3 cr. and specialty rotation—3 cr.)	6 cr.	
EDSP 763	Assessment of Personality and Behavior Problems of Children	3 cr.	
EDSP 766	Educational and Psychopharmacological Issues in Child Neuropsychology	3 cr.	
Total			33 cr.

Doctoral Core Sequence		15 cr.
EDSP 764	Seminar in School Psychology I	3 cr.
EDSP 765	Seminar in School Psychology II	3 cr.
EDSP 777	Seminar in Family-School Relations	3 cr.
EDSP 715	Doctoral Seminar in Applied Educational Research	3 cr.
EDSP 716	Doctoral Seminar in Advanced Educational Research	3 cr.

Specialty Sequence **21 cr.**

Family-School Relations

PSYC 634	Family Therapy	3 cr.
PSYC 763	Advanced Family Therapy	3 cr.

or

PSYC 791	Family and Couples Clinic	3 cr.
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or

EDSP 778	Family Services for School-Related Problems of Children with Special Needs	3 cr.
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EDSP 751	Internship (school rotation-3 cr. and specialty rotation-3 cr.)	6 cr.
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EDSP 950	Dissertation	9 cr.
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OR

Neuropsychology and Learning Disorders

EDSP 753	Child Neuropsychology	3 cr.
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EDSP 778	Family Services for School-Related Problems of Children with Special Needs	3 cr.
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EDSP 751	Internship (school rotation-3 cr. and specialty rotation-3 cr.)	6 cr.
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EDSP 950	Dissertation	9 cr.
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Total **36 cr.**

Doctoral Program (D.Ed. in School Psychology)—Track B*

Doctoral Core Sequence **24 cr.**

EDSP 616	Applied Educational Research Methods (if research section of Candidacy Exam not passed)	3 cr.
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EDSP 715	Doctoral Seminar in Applied Educational Research	3 cr.
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EDSP 716	Doctoral Seminar in Advanced Educational Research	3 cr.
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EDSP 742	Neuropsychology of Children's Learning Disorders	3 cr.
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EDSP 750	Practicum II (3 semester hours)	3 cr.
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EDSP 764	Seminar in School Psychology I	3 cr.
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EDSP 765	Seminar in School Psychology II	3 cr.
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EDSP 777	Seminar in Family-School Relations	3 cr.
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Specialty Sequence **21 cr.**

Family-School Relations

PSYC 634	Family Therapy	3 cr.
PSYC 763	Advanced Family Therapy	3 cr.

or

PSYC 791	Family and Couples Clinic	3 cr.
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or

EDSP 778	Family Services for School-Related Problems	3 cr.
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EDSP 751	Internship (school rotation-3 cr. and specialty rotation-3 cr.)	6 cr.
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EDSP 950	Dissertation	9 cr.
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OR

Neuropsychology and Learning Disorders

EDSP 753	Child Neuropsychology	3 cr.
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EDSP 778	Family Services for School-Related Problems	3 cr.
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EDSP 751	Internship (school rotation-3 cr. and specialty rotation-3 cr.)	6 cr.
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EDSP 950	Dissertation	9 cr.
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Total **45 cr.**

* Track B students should take PSYC 636 or PSYC 658, PSYC 610, and EDSP 766 (Psych. Core) if similar courses are not part of their certification program per advisement of doctoral director.

Department of Foundations of Education

Graduate courses offered by this department include Comparative, Historical, Philosophical, and Social Foundations of Education; Curriculum Development; Professional Negotiations in Education; and International Education Studies Program.

Department of Professional Studies in Education

The Professional Studies in Education Department offers the following graduate degrees: M.Ed. in Education, M.Ed. in Early Childhood Education, M.Ed. in Literacy, a doctorate in Administration and Leadership Studies, and a doctorate in Curriculum and Instruction. A brief description of each degree is presented below. Specific lists of courses and requirements can be obtained from the Professional Studies in Education Department in 303 Davis Hall.

Master's in Education

This thirty-six-credit, team-taught program is structured to address the educational needs of several types of graduate students who enter and proceed through the program as a cohort. The program's integrated curriculum is designed to prepare educators to be research oriented and to be more effective and innovative in classrooms, in schools, and in communities. The six Thematic Units of six credits each include Community and Culture, Instruction and the Learner, Teacher as Researcher, Curriculum and Instruction, Educational Change and Technology, and Teacher as Leader. The program requires Internet access, which is available at IUP at no charge to students.

I. Required Thematic Units		36 cr.
MEDU 661	Community and Culture	6 cr.
MEDU 662	Instruction and the Learner	6 cr.
MEDU 663	Teacher as Researcher	6 cr.
MEDU 664	Educational Change and Technology	6 cr.
MEDU 665	Curriculum and Instruction	6 cr.
MEDU 666	Teacher as Leader	6 cr.

Master of Education in Early Childhood Education

This three-year, part-time program is specifically designed for practicing teachers who are seeking an advanced degree and specialized certificate in the teaching of young children (pre-kindergarten through third grade). Students take one course each fall, one each spring, and two during the summer for a total of 12 credits per year. During years one and two, teachers who are already certified to teach in another educational field (e.g., Elementary Education, Special Education, Art, or Music Education) earn the 24 credits for an Instructional II Certificate in the Commonwealth of Pennsylvania and add an early childhood endorsement (nursery school through third grade) to their credentials. During year three of the program, students earn the remaining 12 credits required for a 36-semester-hour, non-thesis Master's in Early Childhood Education. (Not available on the Indiana campus.)

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Master's Degree Program (M.Ed. in Early Childhood Education)

Year One		12 cr.
LTCY 648	Creativity and the Elementary School Child (early childhood section)	3 cr.
ECED 664	Early Childhood Curriculum	3 cr.
ECED 660	Child Study and Assessment	3 cr.
ELED 643	Resource Materials in Elementary Science	3 cr.
Year Two		12 cr.
ECED 665	Issues and Trends in Early Childhood Education	3 cr.
ELMA 655	Mathematics for Early Childhood	3 cr.
ELED 655	Developmental Influences on Children's Learning	3 cr.
LTCY 644	Recent Trends in Language Arts (early childhood section)	3 cr.
Year Three		12 cr.
GSR 615	Elements of Research	3 cr.
EDEX 515	Preschool Education for Children with Disabilities	3 cr.
ECED 661	History and Philosophy of Early Childhood	3 cr.
HMEC 526	Techniques of Parent Education	3 cr.
Total		36 cr.

M.Ed. in Literacy and/or Reading Specialist Certification

The M.Ed. in Literacy is a graduate program housed in the Department of Professional Studies in Education. This degree is offered to educators certified in teaching who are pursuing graduate studies in reading and literacy theories, research, and instructional practices.

The M.Ed. in Literacy requires thirty-six credits. Students may also receive a Reading Specialist Certification by completion of twenty-seven credits within the master's program from categories A-C.

A. Literacy		21 cr.
LTCY 600	Foundations of Literacy Instruction	3 cr.
LTCY 601	Assessment and Acceleration	3 cr.
LTCY 602	Reading and Writing in the Content Areas	3 cr.
LTCY 605	Organization and Administration of Reading/Writing Programs	3 cr.

LTCY 644	Issues and Trends in the Language Arts	3 cr.
LTCY 670	Practicum and Seminar for Reading Specialists I	3 cr.
LTCY 671	Practicum and Seminar for Reading Specialists II	3 cr.
B. Research		3 cr.
LTCY 698	Analysis of Research in Literacy <i>Required for Reading Specialist Certification</i> <i>Required for M.Ed. in Literacy if not completing a thesis</i>	3 cr.
C. Related Areas (Select one)		3 cr.
LTCY 607	Instruction and Learning with Literature	3 cr.
EDSP 573	Psychology of Adolescent Education	3 cr.
ENGL 518	Adolescent Literature	3 cr.
D. Research		3 cr.
GSR 615	Elements of Research	3 cr.
E. Humanistic Studies		3 cr.
FDED 514	Comparative Foundations of Education	3 cr.
FDED 613	Social Foundations of Education	3 cr.
<i>Other graduate courses that address the relationships of social, political, historical, and cultural perspectives of education could be applicable for this section.</i>		
F. Electives		3 cr.
LTCY 648	Creativity and the Elementary School Child	3 cr.
LTCY 697	Seminar in Reading	3 cr.
LTCY 699	Independent Study in Reading Education	3 cr.
ENGL 690	Writing as a Way of Learning* <i>Other current graduate courses that address literacy, learning, or reading/writing could be applicable as an elective.</i>	3 cr.

* With special permission from advisor

Administration and Leadership Studies—D.Ed. Track

The doctoral program in Administration and Leadership Studies is designed to educate future school superintendents and college administrators. The sixty-credit graduate program will admit approximately twenty candidates who will remain together as a cohort group for three years. Classes are scheduled all day Friday and Saturday approximately once a month from 9 a.m. to 4 p.m.

Potential candidates must take part in a one-hour interview at IUP. The interview and writing examination are designed to identify candidates who will be admitted into the three-year program. All applicants should be current or former administrators and have at least two years of administrative experience.

The program focuses on budgeting techniques, communication skills, team building, leadership theory, conflict resolution, implementing change, research, adult development, and case studies. The monthly seminars combine theory with actual projects that candidates are expected to implement in the workplace. The curriculum is designed to accommodate the schedules of working administrators.

Program requirements

Core			18 cr.
CURR 710	Advanced Topics in Human Development and Learning	3 cr.	
EDUC 650	School and Community	3 cr.	
ALS 701	Leadership Theories	3 cr.	
ALS 702	Leadership: A Case Study Approach	3 cr.	
ALS 703	Leadership: Applied Practice	3 cr.	
ILR 651	Conflict Resolution	3 cr.	
Research			18 cr.
CURR 720	Doctoral Seminar in Research Methods	3 cr.	
ALS 782	Research Instrument Design for Leadership Studies	3 cr.	
ALS 783	Analysis of Qualitative Data in Leadership Studies	3 cr.	
ALS 950	Dissertation	9 cr.	
Internship			6 cr.
ALS 798	Internship in Administration and Leadership Studies	6 cr.	
Educational Administration			18 cr.
CURR 705	Curriculum Evaluation	3 cr.	
CURR 725	Critical Analysis of Issues in Education	3 cr.	
CURR 730	Analysis of Effective Instruction	3 cr.	
EDAD 660	School Finance	3 cr.	
EDUC 658	School Law and Negotiations	3 cr.	
Elective		3 cr.	

Doctorate in Curriculum and Instruction

The Doctor of Education in Curriculum and Instruction is a graduate program intended for teacher/scholars who have demonstrated distinguished achievement as practitioners or administrators in the field of education. The D.Ed. is a professional degree conferred upon candidates who have demonstrated the ability to function effectively in the role of teacher educator in college and university settings and who have a commitment to the professional development of preservice and in-service teachers. Successful completion of the doctorate in curriculum and instruction signifies that program graduates function effectively as teacher/scholars who: 1) understand and apply educational theory, 2) demonstrate competence in curriculum evaluation, 3) fulfill the role of teacher educator committed to working with diverse populations, and 4) conduct independent research that makes a significant contribution to the field of education.

The program leading to a Doctor of Education in Curriculum and Instruction is an applied sequence of courses, experiences, and research for individuals currently serving as educators in basic education. The program intends to serve educators who are seeking to begin careers in higher education or to become curriculum experts and professional development specialists in public, private, and independent schools.

The Doctoral Program in Curriculum and Instruction is designed to prepare teacher/scholars who work with preservice and in-service educators in university and school settings. In fulfilling their role as teacher educators, those who earn the D.Ed. in Curriculum and Instruction have mastered four areas: educational theory, teacher education, curriculum evaluation, and research methods.

The program intends to prepare doctoral graduates who will:

- Fulfill the teacher educator's role in ways that reflect the highest standards for academic rigor, intellectual inquiry, and professional integrity
- Study curriculum as a discipline including the design, implementation, and evaluation of programs in education
- Analyze critical issues in curriculum and instruction, both historical and contemporary, as they relate to a broad range of disciplinary specialties in the field
- Use technology for developing outstanding college-level courses and professional development programs for preservice and in-service educators
- Demonstrate knowledge of adult development, characteristics of adult learners, and appropriate ways of supporting educators' professional growth
- Apply knowledge of learners and curriculum to offer exemplary college-level instruction and supervision to practitioners in the field of education
- Master the research skills of the teacher/scholar in education as demonstrated by professional presentations, scholarly writing, and the successful completion of independent dissertation research
- Contribute to the commonwealth and other educational settings by working effectively and ethically with diverse populations of educators, children, families, and communities

Students who have earned a valid instructional certificate from the Commonwealth of Pennsylvania may pursue the Supervisor of Curriculum and Instruction Certificate in conjunction with a 6-credit Supervised Doctoral Internship.

A total of 60 semester hour credits beyond the master's degree is required in the Doctoral Program in Curriculum and Instruction. The credits are allocated as follows:

I. Core			33 cr.
CURR 705	Curriculum Evaluation	3 cr.	
CURR 710	Advanced Topics in Human Development and Learning	3 cr.	
CURR 725	Critical Analysis of Issues in Education	3 cr.	
CURR 730	Analysis of Effective Instruction	3 cr.	
CURR 735	Education for Cultural Pluralism	3 cr.	
CURR 740	Technology in the Curriculum	3 cr.	
CURR 745	Literacy: Theory, Research, and Practice	3 cr.	
CURR 750	Issues and Processes in Curricular Change	3 cr.	
CURR 755	Doctoral Seminar in Curriculum and Instruction	3 cr.	
Electives			6 cr.
II. Professional Skills			12 cr.
CURR 715	Writing for Professional Publication	3 cr.	
CURR 720	Doctoral Seminar in Research Methods	3 cr.	
EDSP 715	Doctoral Seminar in Applied Research Methods	3 cr.	
or			
ALS 782	Research Instrument Design for Leadership Studies	3 cr.	
ALS 783	Analysis of Qualitative Data for Leadership Studies	3 cr.	
III. Internship			6 cr.
CURR 798	Doctoral Internship	6 cr.	

IV. Dissertation 9 cr.
CURR 950 Dissertation 9 cr.

V. Professional Portfolio

The professional portfolio will be developed during the course of the doctoral program. See the *Doctoral Program in Curriculum and Instruction Handbook* for detailed guidelines.

Department of Special Education and Clinical Services

The Department of Special Education and Clinical Services offers two graduate programs: Master of Education degree in Education of Exceptional Persons and the Master of Science degree in Speech-Language Pathology. These programs are in accord with the current national standards of the Council for Exceptional Children and the American Speech-Language-Hearing Association, respectively.

Master of Education

Education of Exceptional Persons

The M.Ed. program is structured to address the educational needs of four types of graduate students: (a) those who hold Pennsylvania Mentally and/or Physically Handicapped certification; (b) those who hold another teaching certificate who wish to obtain special education certification while working toward an M.Ed. degree in Education of Exceptional Persons; (c) those who hold another teaching certificate who wish to obtain special education certification without earning the M.Ed. degree; and (d) those who do not want to qualify for a teaching certificate but who wish to work professionally with persons with disabilities.

Students working toward a master's degree may select a thesis or a non-thesis option at an appropriate point in their program of studies. The department will exercise final judgment over the exact program of studies required for any student. All M.Ed. candidates must successfully complete a comprehensive examination as the terminal experience in their course of studies.

Applications are due by March 1 for consideration for Summer/Fall acceptance and by July 15 for Spring acceptance.

M.Ed. Students with Pennsylvania Special Education Certification and

M.Ed. Students Not Seeking Pennsylvania Special Education Certification

I. Professional Development Area 9 cr.

A. Humanistic Studies 3 cr.

Choose one of the following:

FDED 514	Comparative Foundations of Education	3 cr.
FDED 611	Historical Foundations of Education	3 cr.
FDED 612	Philosophical Foundations of Education	3 cr.
FDED 613	Social Foundations of Education	3 cr.

B. Behavioral Studies 3 cr.

Choose one of the following:

COUN 629	Group Procedures	3 cr.
COUN 639	Group Procedures	3 cr.
EDSP 604	Advanced Educational Psychology	3 cr.
EDSP 675	Learning and Instruction	3 cr.
EDSP 677	Advanced Psychology of Adolescent Education	3 cr.

C. Research 3 cr.
GSR 615 Elements of Research 3 cr.

II. Specialization Core 18 cr.

EDEX 651	Vocational Preparation and Transition for Youth with Disabilities	3 cr.
EDEX 652	Assessment of Persons with Disabilities	3 cr.
EDEX 654	Advanced Instructional Design in Special Education	3 cr.
EDEX 655	Professional Collaboration and Team Building for Special Educators	3 cr.
EDEX 685	Practicum and Internship	3 cr.
EDSP 679	Advanced Studies in Behavioral Problems	3 cr.

A. 6 cr.

EDEX 850	Thesis	3 cr.
	One elective from Approved List	3 cr.

or

B. 9 cr.

EDEX 653	Research Seminar in Special Education	3 cr.
	Two electives from Approved List	6 cr.

Total required 33-36 cr.

M.Ed. Students Seeking Pennsylvania Special Education Certification*

I. Professional Development Area 9 cr.

A. Humanistic Studies 3 cr.

FDED 514	Comparative Foundations of Education	3 cr.
FDED 611	Historical Foundations of Education	3 cr.
FDED 612	Philosophical Foundations of Education	3 cr.
FDED 613	Social Foundations of Education	3 cr.

B. Behavioral Studies 3 cr.

COUN 629	Group Procedures	3 cr.
COUN 639	Group Procedures	3 cr.
EDSP 604	Advanced Educational Psychology	3 cr.
EDSP 675	Learning and Instruction	3 cr.
EDSP 677	Advanced Psychology of Adolescent Education	3 cr.

C. Research 3 cr.

GSR 615	Elements of Research	3 cr.
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II. Specialization Core 21 cr.

EDEX 651	Vocational Preparation and Transition for Youth with Disabilities	3 cr.
EDEX 652	Assessment of Persons with Disabilities	3 cr.
EDEX 654	Advanced Instructional Design in Special Education	3 cr.
EDEX 655	Professional Collaboration and Team Building for Special Educators	3 cr.
EDEX 685	Practicum and Internship I	3 cr.
EDEX 685	Practicum and Internship I	3 cr.
EDSP 679	Advanced Studies in Behavioral Problems	3 cr.

A.

EDEX 850	Thesis	3 cr.
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or

EDEX 653	Research Seminar	3 cr.
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and

B. Characteristics Courses		15 cr.
EDEX 516	Education of Persons with Emotional or Behavioral Disorders	3 cr.
EDEX 517	Education of Persons with Mental Retardation or Developmental Disabilities	3 cr.
EDEX 518	Education of Persons with Physical or Multiple Disabilities	3 cr.
EDEX 519	Education of Persons with Brain Injuries or Learning Disabilities	3 cr.
EDEX 650	Exceptional Children and Youth	3 cr.
Total required		48 cr.

*Students Seeking Pennsylvania Special Education Certification Only**

I. Characteristics Courses		15 cr.
(Unless the requirement has been previously fulfilled)		
EDEX 516	Education of Persons with Emotional or Behavioral Disorders	3 cr.
EDEX 517	Education of Persons with Mental Retardation or Developmental Disabilities	3 cr.
EDEX 518	Education of Persons with Physical or Multiple Disabilities	3 cr.
EDEX 519	Education of Persons with Brain Injuries or Learning Disabilities	3 cr.
EDEX 650	Exceptional Children and Youth	3 cr.
II. Specialization Core		15 cr.
EDEX 652	Assessment of Persons with Disabilities	3 cr.
EDEX 654	Advanced Instructional Design in Special Education	3 cr.
EDEX 685	Practicum and Internship ¹	3 cr.
EDEX 685	Practicum and Internship ¹	3 cr.
EDSP 679	Advanced Studies in Behavioral Problems	3 cr.
Total required		30 cr.

* These are minimum requirements. Additional course work may be required depending on present certification (e.g., applicants with secondary education certification will be required to demonstrate competence in the teaching of reading, language arts, and math to students with disabilities).

1 The first three semester hours of EDEX 685 focus on mild-moderate disabilities, while the second three semester hours focus on severe-profound disabilities.

Speech-Language Pathology

The Speech-Language Pathology program culminates in a Master of Science degree. IUP is accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association (ASHA). The program provides for the completion of the academic and practicum requirements for the Certificate of Clinical Competence from ASHA, for Pennsylvania Licensure in Speech-Language Pathology, and for Level I Certification in Teaching the Speech and Language Impaired from the Pennsylvania Department of Education. The tripartite role is fulfilled by completion of all the course requirements for the B.S.Ed. and the M.S. degrees. Consequently, applicants who do not meet all of the undergraduate requirements will be asked to complete the necessary deficiencies before registering for graduate courses. Workshops are not to be considered applicable

for degree requirements. The thesis option is available with approval of your advisor.

Master of Science in Speech-Language Pathology

Candidates for the Master of Science degree must meet the academic and practicum requirements for the Certificate for Clinical Competence in Speech-Language Pathology awarded by the American Speech-Language-Hearing Association. A minimum of 48-51 hours is required for the degree.

Required Courses:

SPLP 600	Neurolinguistics	3 cr.
SPLP 604	Diagnostic Methods	3 cr.
SPLP 610	Articulation	3 cr.
SPLP 616	Stuttering	3 cr.
SPLP 618	Voice	3 cr.
SPLP 630	Language Disorders of Children	3 cr.
SPLP 632	Neurological Communication Disorders	3 cr.
SPLP 635	Seminar in Communication (two taken)	6 cr.
SPLP 640	Diagnostic Audiology	3 cr.
SPLP 661	Advanced Clinical Practicum I	2 cr.
SPLP 662	Diagnostic Clinic	1 cr.
SPLP 663	Hearing Testing Clinic	1 cr.
SPLP 671	Advanced Clinical Practicum II	2 cr.

Select two of the following:

SPLP 696	Internship in Hospitals	6 cr.
SPLP 697	Internship in Community Agencies	6 cr.
SPLP 698	Internship in Schools	6 cr.

Admission Policy: The Graduate Admission Committee will review all applicants for admission in terms of courses listed on the transcript(s) as well as grade point average. Applicants will be informed of any deficiencies when they receive the acceptance letter from the School of Graduate Studies and Research.

Undergraduate courses in the major with a letter grade below a "C" will not be accepted as a prerequisite to graduate study and will be treated as a course deficiency. The graduate coordinator will advise the person of the procedures to fulfill the deficiencies.

Because the program has a limit on the number of applicants that it can accept, first priority for admission will be granted to applicants with at least a grade point average of 3.00 out of 4.00 overall in Speech-Language Pathology and Audiology and strong letters of recommendation from at least two faculty members. Second priority will be given to applicants with grade point averages between 2.80 and 2.99. Applicants with GPAs of 2.60 to 2.79 may be accepted on a conditional basis and, before being considered for candidacy, must complete 12 credit hours of content courses with a grade of "A" or "B" in each course. Registration for clinical practicum experiences will not be permitted until candidacy is achieved. Applicants with a grade point average below 2.60 will not be considered for acceptance.

Applicants for whom English is not their native language must achieve a score at the ninetieth percentile or higher on the oral and written subtests of the TOEFL. If applicants are not graduates of an undergraduate program in Speech-Language Pathology and Audiology, the restrictions relative to completing deficiencies will also apply. Furthermore, the applicant must provide the program's Graduate Admission Committee with an audiotape recording of twenty minutes of free conversation with a colleague and twenty minutes of reading from a professional text. The committee will judge the adequacy of the spoken language; the applicant may be required to successfully complete speech

therapy before being allowed to register for clinical practicum experiences.

Observation hours and clinical practicum completed in another country will be accepted when they have been supervised by a speech-language pathologist or an audiologist who holds the appropriate certification from ASHA.

Retention in the Program

No person will be granted a degree who has more than one "C" grade in graduate courses in Speech-Language Pathology. Only one of these courses may be repeated in agreement with the School of Graduate Studies and Research procedures. Clinical courses must be completed with a grade of "B" or higher to meet the requirements for graduation. Furthermore, the practicum hours in clinical courses with a grade of "C" or lower will not apply to ASHA certification or state licensure requirements.

52 National Examination

Prior to receiving their degree, students must complete the National Examination in Speech-Language Pathology and Audiology and provide evidence of the attempt to the graduate coordinator. The examination should be taken during the last semester of enrollment.

Department of Student Affairs in Higher Education

Master of Arts in Student Affairs in Higher Education

The Department of Student Affairs in Higher Education (SAHE) houses one graduate program, offering the M.A. degree in Student Affairs in Higher Education.

The SAHE program is designed to prepare graduate students for employment in higher education in entry-level or mid-management student affairs positions, dependent upon their previous experiences. Graduates will fill professional positions in two- and four-year colleges and universities in areas such as admissions, housing and residence life, student development programs, student activities, financial aid, career planning and development, and academic advising or other program areas.

Under the guidance of student affairs faculty and practitioners, requisite knowledge will be acquired through a balance of academic and practical experiences which stress critical thinking and which encourage the development of professional behavior. Students will develop a broad range of skills, in-depth knowledge, and the ability to apply concepts and skills as effective practitioners. The program is organized in cohort groupings of students enrolled in a curriculum offering foundational and theory courses in the first year and application courses in the second year.

Admission into the program can be from any undergraduate major, provided that students have demonstrated scholarship and the potential for success in advanced studies. A minimum of 42 hours (36 required course hours and 6 hours of electives or thesis) and the successful completion of a comprehensive exam are required to earn the degree. This degree is typically earned over two years of full-time study in daytime classes.

I. Core Courses

36 cr.

First Year

SAHE 621	History of Higher Education in the United States	3 cr.
SAHE 624	Student Affairs Functions in Higher Education	3 cr.
SAHE 625	Theories of Personality and Human Development	3 cr.
SAHE 631	Student Development in Higher Education	3 cr.
SAHE 634	Assessment and Evaluation in Student Affairs	3 cr.

Second Year

SAHE 731	Practicum in Student Affairs (to be taken twice for a total of six credits)	3 cr.
SAHE 733	Management of Organizational Behavior in Higher Education	3 cr.
SAHE 735	Individual and Group Interventions	3 cr.
SAHE 737	The American College Student	3 cr.
SAHE 740	Contemporary Issues in Higher Education	3 cr.

Non-Sequential Courses

GSR 615	Elements of Research	3 cr.
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II. Thesis or Electives

6 cr.

Thesis Option

SAHE 850	Thesis	3 - 6 cr.
Electives		0 - 3 cr.

or

Non-Thesis Option

Electives		6 cr.
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Total

42 cr.

In addition to graduate school admissions requirements, the SAHE program requires a 2.8 (3.0 is preferred) grade point average (GPA), an updated resume, a typed 200-word writing sample addressing the candidate's reasons for entering the field, and a personal interview. All graduate assistant candidates must come to campus for personal interviews. Admissions interviews can run concurrently with assistantship interviews.

College of Fine Arts

The College of Fine Arts offers graduate degrees in Art and Music. The Department of Art offers Master of Arts and Master of Fine Arts degrees. The Department of Music offers a Master of Arts in Music (Music Education), Master of Arts in Music History-Literature, Master of Arts in Theory and Composition, and Master of Arts in Performance degree.

With one of the largest arts programs in the commonwealth, IUP's College of Fine Arts offers members of both the university and the extended community many opportunities to learn and grow. A 1,600-seat auditorium, two theaters, two art galleries, a university museum, and a recital hall augment dedicated facilities for each department. Typically, the College of Fine Arts sponsors more than two hundred arts events annually, including exhibitions of nationally recognized artists, faculty recitals and chamber music concerts, performances of Theater-by-the-Grove, Classical Tracks, Cross Currents, Performance Plus, Music Theater, and other events in IUP's professional "Lively Arts" series. The Department of Music enjoys a partnership with the Pittsburgh Symphony Orchestra, providing on-campus performances and master classes. The Department of Music is accredited by the National Association of Schools of Music. The Department of Art also has an active visiting artists program, and students benefit from the university's proximity to major arts centers of Pittsburgh, Philadelphia, Washington, D.C., and New York City.

Department of Art

The Department of Art offers two advanced studio degrees, the Master of Arts (M.A.) and the Master of Fine Arts (M.F.A.). The Master of Arts studio degree seeks to convey the precepts of contemporary fine art aesthetics and professional practices. Similar to the M.F.A., the M.A. in Studio Arts is a practice-oriented degree. It differs from the M.F.A. in that it is an initial graduate degree; it is meant to prepare students for professional practice directed toward the creation of works of art, the application and transmission of knowledge about works of art, and their interrelationships with each other and with other aspects of culture. The M.A. is an initial 30-credit degree during

which students develop artistically and professionally. An M.A. thesis is optional upon completion of course work. Opting out of the thesis, which is a written and exhibition project, requires an extra studio course in either the major or minor area. The M.F.A. is a terminal 60-credit degree that fosters the development of a coherent aesthetic argument in a chosen media, which culminates in the exhibition of a body of work in a thesis exhibition. Preparation in professional practice is exercised through professional-level experiences in the exhibition of this body of work. The M.F.A. is intended for students wishing to become professional artists and who want to teach in higher education settings.

The M.A. and the M.F.A. degree programs at IUP follow the guidelines and standards of the College Art Association and the National Association of Schools of Art and Design. Nationally, the M.F.A. is the degree that signals the highest level of professional competence in the visual arts.

Admission Requirements

Individuals seeking admission to graduate study within the Department of Art must meet the general admission standards and adhere to academic policies established by the School of Graduate Studies and Research at IUP. These specific policies are described in this catalog.

An applicant must either be a graduate of an accredited B.F.A., B.A., or equivalent degree program or be judged to possess the necessary prerequisite studio proficiency. Admission into the M.A. or M.F.A. program of the Department of Art is based on the nature, extent, and quality of preparation in studio, art history, criticism, and other academic subjects. If an applicant is deemed to be deficient in any of these particular areas, the graduate committee may require satisfactory completion of certain undergraduate courses.

Application for Admission

1. Application Form and Fee
2. Official Transcripts - include all undergraduate graduate course work
3. Resumé

4. Artist/Goal Statement (one page) articulating the subject matter and artistic content of the applicant's work as well as professional goals.
5. Three Letters of Recommendation - These letters should be written by professional artists or educators in the arts with whom the applicant has recently studied or worked and who can assess the applicant's studio and scholastic competencies.
6. Slide Portfolio - Twenty slides representing the applicant's professional artistic work. Each slide should be identified by its number, medium, size, and date of completion. Slides should be contained in a plastic slide sheet. A supplementary slide reference sheet should also be included, identifying each slide by its number, title of work, medium, size, and date of completion.

Application Deadlines

54 All of the application materials must be received by the School of Graduate Studies and Research before a review of materials can take place. There are only two reviews a year:

Review	Receipt date of materials
Spring	March 1
Summer	June 1

Please allow ample time for materials to arrive at IUP. If any are missing, the applicant will not be reviewed. Please note dates above are not postmarked dates. Students seeking assistantships must apply by the March 15 deadline.

Master of Arts (M.A.)

I. Required courses	18 cr.
Major Studio Concentration (Dual Level)	6 cr.
Minor Studio Concentration (Dual Level)	6 cr.
ART 680 Graduate Studio Critique	3 cr.
ART 615 Art Seminar	3 cr.
II. Art History	3 cr.
<i>Select one course from the following:</i>	
ARHI 682 Graduate Seminar in Art History	3 cr.
ARHI 683 Graduate Seminar in Theory and Criticism	3 cr.
III. Electives	6 cr.
Graduate-Level Electives	6 cr.
IV. Thesis Requirements	3 cr.
ART 850 M.A. Thesis Exhibition	3 cr.
or	
No Thesis Option (Extra Course in Major or Minor Studio)	
Total	30 cr.

Graduate Studio Courses (Dual Level) that can count towards the major and minor studio concentration are:

ART 557	Graduate Studio in Print Media
ART 559	Graduate Studio in Fibers
ART 560	Graduate Studio in Jewelry and Metal Work
ART 572	Graduate Studio in Ceramics
ART 573	Graduate Studio in Sculpture
ART 574	Graduate Studio in Painting
ART 575	Graduate Studio in Drawing
ART 576	Graduate Studio in Woodworking

Master of Fine Art (M.F.A.)

I. Required courses	45 cr.
Major Studio Concentration (Dual Level)*	21 cr.
Minor Studio Concentration (Dual Level)*	9 cr.
ART 680 Graduate Studio Critique	9 cr.
	(counted towards major credits)
ART 680 Graduate Studio Critique	3 cr.
	(counted towards minor credits)
ART 615 Art Seminar	3 cr.
II. Art History	6 cr.
ARHI 682 Graduate Seminar in Art History	3 cr.
ARHI 683 Graduate Seminar in Theory and Criticism	3 cr.
III. Electives	6 cr.
Graduate-Level Electives	6 cr.
IV. Thesis Requirements	3 cr.
ART 850 M.F.A. Thesis Electives	3 cr.
Total	60 cr.

*Graduate Studio Courses (Dual Level) that can count towards the major and minor studio concentration are:

ART 557	Graduate Studio in Print Media
ART 559	Graduate Studio in Fibers
ART 560	Graduate Studio in Jewelry and Metal Work
ART 572	Graduate Studio in Ceramics
ART 573	Graduate Studio in Sculpture
ART 574	Graduate Studio in Painting
ART 575	Graduate Studio in Drawing
ART 576	Graduate Studio in Woodworking

Residency Requirement: Master of Fine Arts Degree

The residency requirement for the M.F.A. is the same as that for a student within a doctoral program at IUP. Please refer to that section of the catalog for details.

In addition to the information that appears in this catalog, applicants are advised to request a copy of the *Program Overview and Admission Procedures* document from the Department of Art that describes in slightly more detail the policies and procedures related to the Master of Arts and Master of Fine Arts degree programs.

Department of Music

The graduate program in music provides the student with opportunities to improve skills as teacher, performer, or scholar beyond the bachelor's degree. Upon acceptance by the School of Graduate Studies and Research, each student consults the graduate coordinator in music, who assigns advisors, helps plan a course sequence, and oversees the formation of the thesis committee.

The Department of Music offers four graduate degrees: Master of Arts in Music (Music Education), Master of Arts in Music History-Literature, Master of Arts in Theory and Composition, and Master of Arts in Performance.

The Music Education degree offers students a range of experiences in music teaching and learning theory, research, and performance. Students may elect to prepare a research thesis, a recital thesis, or a final project in a chosen area within music education.

The Performance degree introduces students to the world of professional artistry. Students prepare a thesis which consists of a recital and program notes as partial fulfillment of the degree.

The Music History-Literature degree builds a broad foundation in the history and literature of cultivated music from the early middle ages to the modern era. It can serve as a background for careers in music journalism, concert management, and associated fields. Students prepare a thesis that coordinates knowledge of geography, history, foreign language, and music theory with the study of major styles and masterworks.

The Music Composition and Theory degree will expose students to a broad spectrum of musical styles and compositional techniques, as well as experience in composing for solo instruments, chamber groups, and large ensembles. Students prepare a major composition as a thesis or undertake an extensive analysis.

In addition to meeting School of Graduate Studies and Research requirements, the applicant must meet Music Department admission requirements: a) undergraduate degree with major in music or its demonstrated equivalent; b) undergraduate degree in music education and/or teacher certification for the Music Education degree; c) completion of a satisfactory audition in the applicant's major instrument for the Performance or Music Education degree (specific audition requirements are available upon application); and d) entrance placement exams in theory, music history, and piano proficiency. Applicants requesting admission to the Music Education degree are required to have a Provisional Pennsylvania Teachers Certificate or its equivalent. Music Education applicants who do not already have such certification must complete a planned program leading to certification prior to applying for candidacy at IUP.

Master of Arts in Music Education *30 cr.

I. Core Courses 9 cr.

MUSC 600	Bibliography of Music	3 cr.
MUSC 618	Comprehensive Musicianship	3 cr.
MUSC 632	Research Techniques in Music	3 cr.

II. Required Courses 6 cr.

MUSC 619	Methods for Comprehensive Musicianship	3 cr.
MUSC 620	Foundations of Music Education	3 cr.

III. Music Education Courses 4-6 cr.

Select courses from the following:

MUSC 501	Advanced Choral Conducting	2 cr.
MUSC 502	Advanced Instrumental Conducting	2 cr.
MUSC 535	Music for the Exceptional Student	3 cr.
MUSC 537	Techniques of the Marching Band	2 cr.
MUSC 540-550	Summer Music Workshop	1-3 cr.
MUSC 628	Contemporary International Approaches to Elementary Education	2 cr.
MUSC 629	Advanced String Pedagogy	2 cr.
MUSC 631	Administrative Problems in Music Education	2 cr.
MUSC 633	Comparative Choral Methods	2 cr.
MUSC 634	Practicum in Instrumental Music	2 cr.
MUSC 635	Psychology of Music Education	2 cr.

IV. Music Theory or History Course 3 cr.

MUSC 516	Analytical Techniques	3 cr.
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or

MUHI 503	Music of the Baroque Era	3 cr.
MUHI 504	Music of the Classical Era	3 cr.
MUHI 505	Music of the Romantic Era	3 cr.

MUHI 507	Music of the Twentieth Century	3 cr.
MUHI 508	Music of the Sixteenth Century	3 cr.

V. Applied Music Courses 4 cr.

APMU 601-771		4 cr.
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VI. Thesis 4 cr.

MUSC 850	Thesis	4 cr.
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Master of Arts in Music History-Literature *31 cr.

I. Core Courses 9 cr.

MUSC 600	Bibliography of Music	3 cr.
MUSC 516	Analytical Techniques	3 cr.
MUSC 632	Research Techniques in Music	3 cr.

II. History and Literature Courses 12 cr.

Four courses from the following:

MUHI 503	Music of the Baroque Era	3 cr.
MUHI 504	Music of the Classical Era	3 cr.
MUHI 505	Music of the Romantic Era	3 cr.
MUHI 507	Music of the Twentieth Century	3 cr.
MUHI 508	Music of the Sixteenth Century	3 cr.

III. Elective 6 cr.

(600-level courses and others as approved by advisor)

IV. Thesis 4 cr.

MUSC 850	Thesis	4 cr.
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Master of Arts in Theory and Composition *31 cr.

I. Core Courses 9 cr.

MUSC 516	Analytical Techniques	3 cr.
MUSC 600	Bibliography of Music	3 cr.
MUSC 632	Research Techniques in Music	3 cr.

II. Theory and Composition Courses 12 cr.

Four courses from the following:

MUSC 511	Composition	3 cr.
MUSC 512	Advanced Orchestration	3 cr.
MUSC 513	Advanced Band Scoring	3 cr.
MUSC 514	Advanced Choral Arranging	3 cr.
MUSC 515	Counterpoint	3 cr.
MUSC 618	Comprehensive Musicianship	3 cr.

III. Electives 6 cr.

(600-level courses and others as approved by advisor)

IV. Thesis 4 cr.

MUSC 850	Thesis	4 cr.
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Master of Arts in Performance *31 cr.

I. Core Courses 9 cr.

MUSC 516	Analytical Techniques	3 cr.
MUSC 600	Bibliography of Music	3 cr.
MUSC 632	Research Techniques in Music	3 cr.

II. Applied Music Courses 12 cr.

APMU 601-771		12 cr.
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III. Electives 6 cr.

(Music Theory or Music History courses and others as approved by advisor)

IV. Thesis 4 cr.

MUSC 850	Thesis	4 cr.
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* 50 percent of the courses must be 600 level or above.

56 College of Health and Human Services

The College of Health and Human Services offers Master of Science degrees in Food and Nutrition, Sport Science, Nursing, and Safety Sciences and a Master of Arts degree in Industrial and Labor Relations. These innovative programs, in partnership with the global communities served, are designed to improve the quality of life. Three of the five programs hold national accreditation.

Department of Food and Nutrition

The Master of Science degree program is designed to prepare individuals with baccalaureate education in food and nutrition by increasing the depth of their knowledge with respect to food and nutrition, developing research skills, and enhancing their performance skills by specialization in the area of applied human nutrition. Courses in intermediate nutrition (FDNT 45S 55S* Advanced Human Nutrition) and biochemistry are required for entrance into the program. Prospective students apply for admission through the School of Graduate Studies and Research. Applicants are then referred to the Food and Nutrition Department Graduate Studies Committee for review. All relevant official transcripts, Graduate Record Examination scores, and letters of recommendation must be on file with the School of Graduate Studies and Research prior to any department decision. After acceptance, a faculty advisor will be assigned to each student.

*If taken for graduate credit, Advanced Human Nutrition cannot count toward degree credits in the Food and Nutrition program but can be taken as an elective degree course outside of Food and Nutrition.

With the successful completion of 15 hours of graduate course work, including BIOL 602 or GSR 516 and GSR 615, students will qualify for degree candidacy.

An Accredited American Dietetic Association Dietetic Internship is available in conjunction with the master's program. Admission to this program requires a separate application. Information can be obtained by contacting the Food and Nutrition dietetic internship program director.

Students may choose a thirty-three-credit degree program to include a four-credit thesis (FDNT 550) or a thirty-five-credit program with a comprehensive exam.

Thesis Degree Requirements

I. Professional Core Courses		12 cr.
BIOL 602	Biometry	3 cr.
or		
GSR 516	Statistics I	3 cr.
GSR 615	Elements of Research	3 cr.
FDNT 713	Seminar in Food and Nutrition (to be taken twice for a total of two credits)	1 cr.
FDNT 550	Thesis	4 cr.

II. Department Core Courses

Students must elect 15 semester hours (five courses) from the following list. They may choose no more than one 500-level course; course selection must include FDNT 645, FDNT 646, and must include one course in life cycle nutrition such as FDNT 711.

FDNT 544	Food Composition and Biochemistry	3 cr.
FDNT 547	Nutritional Aspects of Food Technology	3 cr.
FDNT 564	Food and Nutrition Research Methods	3 cr.
FDNT 612	Administration of Food Service Systems	3 cr.
FDNT 641	Eating Behaviors and Food Habits	3 cr.
FDNT 642	Contemporary Issues in Food and Nutrition	3 cr.
FDNT 645	Proteins, Carbohydrates, and Fats	3 cr.
FDNT 646	Vitamins and Minerals	3 cr.
FDNT 711	Nutrition in the Life Cycle	3 cr.
FDNT 743	Clinical Dietetics	3 cr.

III. Electives

Students will elect additional courses from the *IUP Graduate Catalog* with the approval of their advisor.

Total semester hours	33 cr.
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Non-Thesis Degree Requirements**I. Professional Core Courses** 8 cr.

BIOL 602	Biometry	3 cr.
or		
GSR 516	Statistical Methods I	3 cr.
GSR 615	Elements of Research	3 cr.
FDNT 713	Seminar in Food and Nutrition (to be taken twice for a total of two credits)	1 cr.

II. Department Core Courses 15 cr.

Students must elect 15 semester hours (five courses) from the following list. They may choose no more than one 500-level course; course selection must include FDNT 645, FDNT 646, and must include one course in life cycle nutrition such as FDNT 711.

FDNT 544	Food Composition and Biochemistry	3 cr.
FDNT 547	Nutritional Aspects of Food Technology	3 cr.
FDNT 564	Food and Nutrition Research Methods	3 cr.
FDNT 612	Administration of Food Service Systems	3 cr.
FDNT 641	Eating Behaviors and Food Habits	3 cr.
FDNT 642	Contemporary Issues in Food and Nutrition	3 cr.
FDNT 645	Proteins, Carbohydrates, and Fats	3 cr.
FDNT 646	Vitamins and Minerals	3 cr.
FDNT 711	Nutrition in the Life Cycle	3 cr.
FDNT 743	Clinical Dietetics	3 cr.

III. Electives 12 cr.

Students will elect additional courses from the *IUP Graduate Catalog* with the approval of their advisor.

Total semester hours	35 cr.
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Suggested Ancillary Courses

FDNT 562	Advanced Experimental Foods	3 cr.
FDNT 698	Internship	1-6 cr.
ACE 620	Introduction to Adult and Community Education	3 cr.
ACE 621	The Adult Learner	3 cr.
ACE 622	Program and Process Development in Adult and Community Education	3 cr.
ACE 623	Organization and Administration in Adult and Community Education	3 cr.
ACE 625	Facilitating Adult Learning	3 cr.
EDSP 616	Applied Research Methods	3 cr.
EDSP 715	Doctoral Seminar in Applied Educational Research	3 cr.
GSR 517	Statistical Methods II	3 cr.
HPED 510	Exercise Prescription	3 cr.
HPED 512	Physical Activity and Stress Management	3 cr.
HPED 513	Physical Activity and Aging	3 cr.
HPED 601	Sport and Society	3 cr.
HPED 632	Assessment of Human Physiological Functions	3 cr.
ILR 631	Human Resource Management in the Public Sector	3 cr.
NURS 617	Issues in Health Care	3 cr.

Department of Health and Physical Education

The Master of Science degree in Sport Science is designed to meet the needs of students from nonteaching professions, as well as from the teaching profession. The program is discipline-specific with provision for students to choose from among four different academic tracks: Sport Management, Exercise Science, Aquatics Administration/Facilities Management, and Sport Studies. According to their selected program of study, students are prepared for a variety of competitive employment opportunities, including management and administration of sport and athletic programs, corporate and community health and fitness facilities, hospital and medical-based exercise programs, and recreational programs in school and community settings.

Requirements for Admission

To be admitted to the Health and Physical Education Department, the applicant must have completed the requirements for a bachelor's degree from an accredited college or university and fulfill the general requirements for admission to the School of Graduate Studies and Research for a master's degree.

Master of Science in Sport Science

Students may choose between a thesis or non-thesis curriculum, depending upon individual preferences and need.

Sport Management Track**I. Thesis Degree Requirements** 30 cr.**A. Core Courses** 18 cr.

HPED 601	Sport and Society	3 cr.
HPED 634	Current Literature in Sport	3 cr.
HPED 603	Physiological Basis of Sport	3 cr.
GSR 516	Statistical Methods I	3 cr.
GSR 615	Elements of Research	3 cr.
HPED 850	Thesis	3 cr.

B. Required Courses 12 cr.

MGMT 613	Organizational Analysis	3 cr.
HPED 635	Sport Management	3 cr.
HPED 637	Sport Facilities Management	3 cr.
BTST 670	Administrative Communications	3 cr.

II. Non-thesis Degree Requirements 36 cr.**A. Core Courses** 15 cr.

HPED 601	Sport and Society	3 cr.
HPED 634	Current Literature in Sport	3 cr.
HPED 603	Physiological Basis of Sport	3 cr.
GSR 516	Statistical Methods I	3 cr.
GSR 615	Elements of Research	3 cr.

B. Required Courses 12 cr.

MGMT 613	Organizational Analysis	3 cr.
HPED 635	Sport Management	3 cr.
HPED 637	Sport Facilities Management	3 cr.
BTST 670	Administrative Communications	3 cr.

*C. Elective Courses		9 cr.
HPED 510	Exercise Prescription	3 cr.
HPED 512	Physical Activity and Stress Management	3 cr.
HPED 513	Physical Activity and Aging	3 cr.
HPED 602	Sport Psychology	3 cr.
ILR 611	Development and Theories of the Labor Movement	3 cr.
ILR 613	Fundamentals of American Industrial and Labor Relations	3 cr.
HPED 620	Exercise Prescription for Chronic Diseases	3 cr.
BTST 642	Training and Development in Business Workforce Development	3 cr.
HPED 672	Epidemiology of Physical Activity	3 cr.
HPED 680	Seminar	3 cr.
HPED 681	Special Topics	3 cr.
HPED 698	Internship	3 cr.

* Electives may be substituted, based upon student's undergraduate course record and permission of advisor.

Exercise Science Track

I. Thesis Degree Requirements		30 cr.
A. Core Courses		18 cr.
HPED 601	Sport and Society	3 cr.
HPED 603	Physiological Basis of Sport	3 cr.
HPED 634	Current Literature in Sport	3 cr.
GSR 516	Statistical Methods I	3 cr.
GSR 615	Elements of Research	3 cr.
HPED 850	Thesis	3 cr.
B. Required Courses		12 cr.
HPED 512	Physical Activity and Stress Management	3 cr.
HPED 632	Assessment of Human Physiological Functions	3 cr.
HPED 620	Exercise Prescription for Chronic Diseases	3 cr.
HPED 672	Epidemiology of Physical Activity	3 cr.
II. Non-thesis Degree Requirement		36 cr.
A. Core Courses		15 cr.
HPED 601	Sport and Society	3 cr.
HPED 603	Physiological Basis of Sport	3 cr.
HPED 634	Current Literature in Sport	3 cr.
GSR 516	Statistical Methods I	3 cr.
GSR 615	Elements of Research	3 cr.
B. Required Courses		12 cr.
HPED 512	Physical Activity and Stress Management	3 cr.
HPED 632	Assessment of Human Physiological Functions	3 cr.
HPED 620	Exercise Prescription for Chronic Diseases	3 cr.
HPED 672	Epidemiology of Physical Activity	3 cr.
*C. Electives		9 cr.
HPED 510	Exercise Prescription	3 cr.
HPED 513	Physical Activity and Aging	3 cr.
HPED 602	Sport Psychology	3 cr.
HPED 631	Motor Learning	3 cr.
HPED 633	Kinesiological Principles	3 cr.
HPED 680	Seminar	3 cr.

HPED 681	Special Topics	3 cr.
HPED 698	Internship	3-6 cr.

* Electives may be substituted, based upon student's undergraduate course record and permission of advisor.

Aquatic Administration/Facilities Management Track

I. Thesis Degree Requirements		30 cr.
A. Core Courses		18 cr.
HPED 601	Sport and Society	3 cr.
HPED 603	Physiological Basis of Sport	3 cr.
HPED 634	Current Literature in Sport	3 cr.
GSR 516	Statistical Methods I	3 cr.
GSR 615	Elements of Research	3 cr.
HPED 850	Thesis	3 cr.
B. Required Courses		12 cr.
HPED 635	Sport Management	3 cr.
HPED 637	Sport Facilities Management	3 cr.
HPED 641	Administration of Aquatic Programs	3 cr.
HPED 642	Design and Operation of Aquatic Facilities	3 cr.
II. Non-thesis Degree Requirement		36 cr.
A. Core Courses		15 cr.
HPED 601	Sport and Society	3 cr.
HPED 603	Physiological Basis of Sport	3 cr.
HPED 634	Current Literature in Sport	3 cr.
GSR 516	Statistical Methods I	3 cr.
GSR 615	Elements of Research	3 cr.
B. Required Courses		12 cr.
HPED 635	Sport Management	3 cr.
HPED 637	Sport Facilities Management	3 cr.
HPED 641	Administration of Aquatic Programs	3 cr.
HPED 642	Design and Operation of Aquatic Facilities	3 cr.
*C. Elective Courses		9 cr.
HPED 510	Exercise Prescription	3 cr.
HPED 512	Physical Activity and Stress Management	3 cr.
HPED 513	Physical Activity and Aging	3 cr.
HPED 602	Sport Psychology	3 cr.
ILR 611	Development and Theories of the Labor Movement	3 cr.
ILR 613	Fundamentals of American Industrial and Labor Relations	3 cr.
HPED 620	Exercise Prescription for Chronic Diseases	3 cr.
MGMT 630	Management Theory	3 cr.
BTST 642	Training and Development in Business Workforce Development	3 cr.
HPED 672	Epidemiology of Physical Activity	3 cr.
HPED 680	Seminar	3 cr.
HPED 681	Special Topics	3 cr.
HPED 698	Internship	3 cr.

* Electives may be substituted, based upon student's undergraduate course record with permission of advisor.

Sport Studies Track

I. Thesis Degree Requirements		30 cr.
A. Core Courses		18 cr.
HPED 601	Sport and Society	3 cr.
HPED 603	Physiological Basis of Sport	3 cr.
HPED 634	Current Literature in Sport	3 cr.
GSR 516	Statistical Methods I	3 cr.

GSR 615	Elements of Research	3 cr.
HPED 850	Thesis	3 cr.

Electives 12 cr.

Students may, with the advice and consent of the graduate coordinator, select electives from any of the approved graduate-level courses.

II. Non-thesis Degree Requirements 36 cr.

A. Core Courses 15 cr.

HPED 601	Sport and Society	3 cr.
HPED 603	Physiological Basis of Sport	3 cr.
HPED 634	Current Literature in Sport	3 cr.
GSR 516	Statistical Methods I	3 cr.
GSR 615	Elements of Research	3 cr.

Electives 21 cr.

Six semester hours from the following:

HPED 510	Exercise Prescription	3 cr.
HPED 512	Physical Activity and Stress Management	3 cr.
HPED 513	Physical Activity and Aging	3 cr.
HPED 602	Sport Psychology	3 cr.
HPED 632	Assessment of Human Physiological Functions	3 cr.
HPED 633	Kinesiological Principles	3 cr.
HPED 635	Sport Management	3 cr.
HPED 637	Sport Facilities Management	3 cr.
HPED 680	Seminar	3 cr.
HPED 681	Special Topics	3 cr.

In addition, the student is required to earn 15 semester hours from any approved graduate-level courses, with the advice and consent of the graduate coordinator.

Course Requirements for the M.A. Degree

I. Required Core: 27 cr.

ILR 610	Employee Rights under Law	3 cr.
ILR 611	Development and Theories of the Labor Movement	3 cr.
ILR 612	Labor Relations Practice and Administration	3 cr.
ILR 613	Fundamentals of American Industrial and Labor Relations	3 cr.
ILR 615	Dispute Settlement	3 cr.
ILR 619	Research Methods in Industrial and Labor Relations	3 cr.
ILR 625	Processes of Collective Bargaining	3 cr.
ILR 641	Contract Administration	3 cr.
ECON 530	Labor Economics (or approved substitute)	3 cr.

II. Elective Area: 15 cr.

Fifteen semester hours chosen from other elective courses in industrial and labor relations or from related departments with the approval of student's advisor.

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Department of Nursing and Allied Health Professions

The program leading to a Master of Science degree in nursing is fully accredited by the Commission on Collegiate Education. It is designed to prepare the graduate for an advanced practice nursing role as a nurse administrator or a community health clinical nurse specialist and serves as a foundation for doctoral study.

Upon completion of the degree the student is prepared to:

- Provide leadership that influences nursing practice and contributes to the advancement of the nursing profession.
- Synthesize advanced skills and scientific knowledge to practice as a community health clinical nurse specialist or nurse administrator.
- Utilize advanced nursing practice knowledge and research skills in the identification, resolution, and evaluation of clinical nursing or management problems to provide high quality, cost-effective health care for the community.

Course work builds on the knowledge and skills gained in a basic nursing education program. It provides the theoretical and practical knowledge required for advanced nursing practice in diverse settings within a rapidly changing health care system. Nurse administrators assume leadership roles in planning, organizing, and implementing care across the spectrum of health care settings. Clinical nurse specialists provide leadership in the provision of care for clients with multiple and/or complex needs within a variety of community settings.

Students may choose the 42-credit Community Health Clinical Nurse Specialist track or the 36-credit Nursing Administration track.

Registered nurse students who enroll in the IUP Bachelor of Science in Nursing program may take up to six credits of

Department of Industrial and Labor Relations

The Master of Arts in Industrial and Labor Relations is a multidisciplinary graduate degree program designed to prepare professional practitioners in the field of industrial and labor relations in public and private management, unions, government agencies, and neutral and service organizations. The 42-semester-hour program consists of a required core of 27 semester hours and elective course offerings totaling 15 semester hours.

In consultation with the advisor, each student will individually build the elective sequence of the program of study by choosing 15 elective semester hours from among industrial and labor relations courses and courses approved by the advisor that are offered by other departments.

Students are strongly encouraged to elect an internship to integrate theory and practice in the field. Certain students with exceptional background in relevant work experience or previous course work may qualify for exemption from some courses. As part of their professional growth, students may also participate in the research and training activities of the Pennsylvania Center for the Study of Labor Relations.

graduate-level course work as part of the undergraduate program. These graduate-level courses taken by IUP undergraduate nursing students would be used to partially fulfill the degree requirements of the IUP M.S. in Nursing program.

Nursing Administration Track			*30-36 cr.
Graduate Nursing Core			21 cr.
NURS 610	Health Promotion and Social Issues	3 cr.	
NURS 614	Health Care Organizations and Policy	3 cr.	
NURS 620	Theoretical Foundations of Nursing	3 cr.	
NURS 622	The Practice of Nursing Research I	3 cr.	
NURS 623	The Practice of Nursing Research II	3 cr.	
**Electives		6 cr.	
Administration Courses			15 cr.
NURS 619	Leadership Strategies for Nursing	3 cr.	
NURS 729	Nursing Administration	3 cr.	
NURS 730	Financial Management in Health Care	3 cr.	
NURS 731	Nursing Administration Practicum	6 cr.	

Clinical Nurse Specialist Track			*36-42 cr.
Graduate Nursing Core			21 cr.
NURS 610	Health Promotion and Social Issues	3 cr.	
NURS 614	Health Care Organizations and Policy	3 cr.	
NURS 620	Theoretical Foundations of Nursing	3 cr.	
NURS 622	The Practice of Nursing Research I	3 cr.	
NURS 623	The Practice of Nursing Research II	3 cr.	
**Electives		6 cr.	
Advanced Practice Nursing Core			9 cr.
NURS 511	Advanced Health Assessment	3 cr.	
NURS 612	Pathophysiology for Advanced Practice Nursing	3 cr.	
NURS 613	Pharmacology for Advanced Practice Nursing	3 cr.	
Community Health Courses			12 cr.
NURS 734	Concepts of Community Health Nursing	3 cr.	
NURS 735	Aggregates in the Community	3 cr.	
NURS 736	Leadership in Community Health Nursing	6 cr.	

* Up to six credits earned by taking graduate course work as an IUP undergraduate would be applied to fulfilling the degree requirements of the M.S. in Nursing major.

** Students may choose electives from IUP courses that are appropriate for their needs and interests as they work toward meeting the program objectives. Advisors will approve elective choices. Six credits of NURS 850 Thesis may be substituted for electives.

Department of Safety Sciences

The Department of Safety Sciences offers a program of studies leading to a Master of Science degree in Safety Sciences. A thesis option is available. Students have the opportunity to choose from two specialty tracks: safety management and technical, including a wide selection of course offerings as electives. In addition, students may choose elective courses, with approval of advisor, in fields directly related to safety sciences. The program is designed for individuals with relevant experience in safety sciences and those with appropriate undergraduate preparation who are interested in pursuing careers in the profession.

Program Objectives:

After completing the M.S. program in Safety Sciences, the students will have:

1. Expanded their technical and managerial knowledge and skills of the safety, health, and environmental field.
2. Acquired advanced research and communication skills.
3. Enhanced their leadership skills.
4. Developed an understanding of their professional and ethical responsibilities within the safety, health, and environmental field.

Admission Requirements:

Admission to the M.S. in Safety Sciences program requires the same admission procedures established for admission to the School of Graduate Studies and Research, that is, a baccalaureate degree with a minimum 2.6 CGPA.

In addition to meeting the requirements for admission to the School of Graduate Studies and Research, a student intending to work toward a Master of Science in Safety Sciences will be required to have the following prerequisite professional preparation:

Entry-level competency in Safety Management, Occupational Safety, Occupational Health, and Fire Protection through relevant education, documented work experience, certifications, or other means acceptable to the Safety Sciences Graduate Review Committee.

When the Safety Sciences Graduate Review Committee determines that a deficiency in work experience or relevant education exists, a student will be required to complete additional studies to eliminate the deficiency. More information on admissions requirements is available from the Safety Sciences Department.

Required Core Courses			12 cr.
SAFE 610	Safety, Health, and Environmental Administration	3 cr.	
SAFE 602	Research Methods in Safety Management	3 cr.	
SAFE 603	Human Relations in Safety Management	3 cr.	
SAFE 644	Preventing Unsafe Acts	3 cr.	

Student must select one of two tracks: Safety Management or Technical

1. Safety Management Track

SAFE 625	Risk Strategies for the SH&E Professional	3 cr.
SAFE 541	Accident Investigation	3 cr.
SAFE 623	Advanced Safety Administration	3 cr.
SAFE 624	Solving Safety Problems	3 cr.

2. Technical Track

SAFE 660	Applied Industrial Hygiene	3 cr.
SAFE 647	Applied Ergonomics	3 cr.
SAFE 605	Application of Safety Engineering Principles	3 cr.
SAFE 674	Fire Safety in Building Design	3 cr.

Advisor-Approved Controlled Electives (Choose a minimum of 12 credit hours)

SAFE 520	Law and Ethics in the Safety Profession	3 cr.
SAFE 541	Accident Investigation	3 cr.
SAFE 542	Current Issues in Safety	3 cr.
SAFE 543	Construction Safety	3 cr.
SAFE 561	Air Pollution	3 cr.
SAFE 562	Radiological Health	3 cr.
SAFE 565	Right-to-Know Legislation	3 cr.
SAFE 581	Special Topics	3 cr.
SAFE 604	Industrial Toxicology	3 cr.
SAFE 605	Application of Safety Engineering Principles	3 cr.
SAFE 606	Hazardous Materials Management	3 cr.
SAFE 620	Safety Data Management	3 cr.
SAFE 621	Programming Safe Behavior	3 cr.
SAFE 623	Advanced Safety Administration	3 cr.
SAFE 624	Solving Safety Problems	3 cr.
SAFE 625	Risk Strategies for the SH&E Professional	3 cr.
SAFE 647	Applied Ergonomics	3 cr.
SAFE 630	Pollution Control	3 cr.
SAFE 660	Applied Industrial Hygiene	3 cr.
SAFE 663	Industrial Hygiene Laboratory Methods	3 cr.
SAFE 664	Industrial Noise Control	3 cr.
SAFE 672	Process Safety in the Chemical Industry	3 cr.
SAFE 673	Disaster Preparedness	3 cr.
SAFE 674	Fire Safety in Building Design	3 cr.
SAFE 681	Special Topics	3 cr.
SAFE 699	Independent Study	3 cr.
SAFE 850	Thesis	1-6 cr.

Other courses outside the department may be applied as advisor-approved controlled electives with the approval of the advisor. Electives will be offered on a rotating basis, but all will not be available during a two-year cycle.

12 cr.***Certificate of Recognition in Safety Sciences***

The Department of Safety Sciences offers a program of studies leading to a Certificate of Recognition in Safety Sciences. The Certificate of Recognition in Safety Sciences is a twelve-credit program that introduces the students to the fundamentals of occupational safety and health. The fundamentals will stress the recognition, evaluation, and control of common workplace hazards. The Certificate of Recognition in Safety Sciences is designed for those individuals who already have a bachelor's degree and have safety and health program activities as peripheral responsibilities within an organization. It should also be noted that the Certificate of Recognition in Safety Sciences could also serve as a foundation for those individuals who would like to pursue a graduate program in safety but who do not have an undergraduate degree in safety. Professionals who would benefit from this certificate are human resource managers, occupational health and environmental health professionals, or others who have safety as a peripheral responsibility.

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Program Requirements

All students will be required to successfully complete a total of twelve credits, of which six hours are core courses. The student must choose the remaining six hours in elective courses.

Required Core Courses**6 cr.**

SAFE 645	Principles of Occupational Safety	3 cr.
SAFE 667	Principles of Occupational Health	3 cr.

Elective Courses**6 cr.**

Select two courses from the following list:

SAFE 562	Radiological Health	3 cr.
SAFE 623	Advanced Safety Administration	3 cr.
SAFE 630	Pollution Control	3 cr.
SAFE 643	Construction Safety	3 cr.
SAFE 673	Disaster Preparedness	3 cr.

62 College of Humanities and Social Sciences

The College of Humanities and Social Sciences offers master's degrees in Criminology, English, Geography and Regional Planning, History, Political Science, and Sociology. Doctorates are awarded in Criminology, English (Literature and Criticism, Composition and TESOL), and Administration and Leadership Studies.

Department of Criminology

The Department of Criminology offers programs of study leading to a Master of Arts and a Doctor of Philosophy degree in Criminology. The programs are designed to prepare graduate students for careers in academia as well as upper-level administrative positions in various fields of justice. The programs allow the student to choose from a wide selection of courses within the Department of Criminology as well as elective courses in related departments.

The Master of Arts program is offered in two locations. The M.A. program on the main campus offers full- or part-time study. A part-time evening program is also offered in the greater Pittsburgh area. The doctoral program is offered on the main campus; full- or part-time study is permitted.

Master of Arts in Criminology

Department Admission Requirements

In addition to meeting the requirements for admission to the School of Graduate Studies and Research, a student intending to work toward a Master of Arts in Criminology will be required to have the following prerequisite academic and/or professional preparation:

- A. Students should be able to demonstrate a sound understanding of criminological theory and the criminal justice system (generally satisfied by a bachelor's degree in criminology, criminal justice, or related field); or,
- B. Students should have knowledge gained through experience within the justice system or by specialized training or completed graduate or undergraduate studies in a related field.*

*All applicants for the Master of Arts degree in Criminology must possess the essence of knowledge offered in the undergraduate (B.A.) program core courses. These courses are

CRIM 102	Survey of Criminology
CRIM 210	Criminal Law
CRIM 300	Theory of Complex Criminal Justice Organizations
CRIM 306	Criminological Research Methods
CRIM 400	Theoretical Criminology
CRIM 401	Contemporary Issues in Criminology

If, upon the consideration of the Department of Criminology Graduate Committee, an applicant is deemed to be deficient, the department, through the master's coordinator, will require appropriate undergraduate courses to remove these deficiencies. Students may begin master's studies in either semester or in the summer.

Master of Arts in Criminology

Students must choose between a thesis or non-thesis curriculum:

Thesis Degree Requirements

A total of 36 semester hours is required, including:

CRIM 600	Criminological Theory	3 cr.
CRIM 601	Proseminar	3 cr.
CRIM 605	Research Methods	3 cr.
CRIM 610	Legal Issues in Criminology	3 cr.
CRIM 630	Seminar in Administration and Management in Criminal Justice	3 cr.
CRIM 631	System Dynamics in the Administration of Justice	3 cr.
CRIM 718	Quantitative Strategies for Criminology	3 cr.
CRIM 730	Ethical and Philosophical Issues in Criminology	3 cr.
CRIM 850	Thesis	3-6 cr.
Electives		6 cr.
Total		36 cr.

Non-Thesis Degree Requirements

A total of 36 semester hours is required, including:

CRIM 600	Criminological Theory	3 cr.
CRIM 601	Proseminar	3 cr.
CRIM 605	Research Methods	3 cr.
CRIM 610	Legal Issues in Criminology	3 cr.
CRIM 630	Seminar in Administration and Management in Criminal Justice	3 cr.
CRIM 631	System Dynamics in the Administration of Justice	3 cr.
CRIM 718	Quantitative Strategies for Criminology	3 cr.
CRIM 730	Ethical and Philosophical Issues in Criminology	3 cr.
Electives		12 cr.
Total		36 cr.

Doctor of Philosophy in Criminology**Department Admission Requirements**

It is expected that students entering the Ph.D. program in Criminology will have completed a master's degree in either Criminology or a closely related discipline. However, in exceptional cases, a highly qualified applicant may enter the doctoral track with a baccalaureate degree. Such students would obtain the M.A. degree en route to the Ph.D.

Applicants must meet all School of Graduate Studies and Research admission requirements. Additionally, the doctoral coordinator, after consulting with the department Ph.D. committee, will submit a recommendation regarding applicants to the School of Graduate Studies and Research. The following criteria are reviewed:

1. all official college transcripts
2. three letters of recommendation
3. statement of goals
4. example of written work (thesis, articles, reports, etc.)
5. GRE scores (a combined score of at least 900 on the verbal and quantitative sections is expected. Some flexibility may be granted at the discretion of the screening committee.)
6. skill requirement (foreign language, computer or statistical ability, or other skills approved by the Ph.D. committee or the department's graduate curriculum committee)
7. personal interview (may be requested by department Ph.D. committee or by applicant)

Curriculum

The Ph.D. program in Criminology requires a minimum of 54 semester hours of acceptable graduate credit. Each student must complete requirements for (a) course work; (b) area of specialization requirements; (c) qualifying examinations; (d) skill requirement; and (e) dissertation.

A. Required Course Work

1. Core Courses (21 semester hours):		
CRIM 710	Advanced Theoretical Criminology	3 cr.
CRIM 717	Advanced Qualitative Methods	3 cr.
CRIM 718	Quantitative Strategies for Analysis in Criminology	3 cr.
CRIM 720	Advanced Quantitative Methods	3 cr.
CRIM 730	Ethical and Philosophical Issues in Criminology	3 cr.

CRIM 740	Advanced Criminal Justice Policy	3 cr.
CRIM 750	Doctoral Colloquium in Criminology	3 cr.
2. Advanced Applied Research (9 semester hours):		
CRIM 801	Advanced Applied Research I	3 cr.
CRIM 802	Advanced Applied Research II	3 cr.
CRIM 803	Advanced Applied Research III	3 cr.

3. Criminology Electives: six semester hours minimum
4. Other Electives: six semester hours from Criminology or related disciplines

B. Qualifying Examination: Upon completion of 18 semester hours a student must take qualifying examinations in three core subject areas. After successful completion, a student may proceed toward fulfillment of remaining degree requirements.

C. Comprehensive Area of Specialization Competence Review: Areas of Concentration—Each student must decide upon one subspecialty within Criminology. Upon consultation with the student, the student's advisory committee, and the doctoral coordinator, a proficiency review will be conducted.

D. Skill requirement: (0-6 semester hours) This requirement may be fulfilled by demonstrating knowledge in one of the following areas:

- foreign language
- computer
- advanced statistics
- advanced research methods
- other appropriate areas as approved by the doctoral coordinator

Further details regarding any of these skill requirements can be obtained from the doctoral coordinator.

E. Dissertation: In accordance with university guidelines, successful completion of a doctoral dissertation is required (12 semester hours).

Residency

The following options are available to doctoral students for satisfying residency requirements:

1. completion of a minimum of nine graduate credits at IUP in each of at least two consecutive semesters
2. completion of a minimum of nine graduate credits at IUP for at least one semester immediately preceding or following a summer of nine semester hours of study
3. completion at IUP of at least nine graduate credits in each of two consecutive summers plus six graduate credits during the intervening academic year

Part-Time Study

This program may admit each year some students whose intention is to complete the program on a part-time basis. Course offerings can be expected to fluctuate, especially in the expansion of new course offerings. A complete and updated description of any changes can be obtained from the Department of Criminology.

Department of English

Master of Arts in English

The M.A. in English responds to the needs of four groups of students: those interested in gaining a generalist background in graduate English studies, students wanting to concentrate on literature, students seeking secondary English certification or desiring to enhance their existing skills in teaching English, and students who want to teach English to speakers of other languages. Each of the four options for the M.A. requires 36 credit hours, either of course work (twelve courses) or a combination of course work and an internship or thesis. Each option has its own set of requirements for distributing those 36 hours, and each has its own admissions committee. Students applying for admission must indicate which degree option they wish to pursue.

- 64 The generalist (M.A. GEN) option is designed for students who wish to take course work in several areas of English to attain a balanced background in the discipline and gain preparation for more advanced doctoral work, for teaching at the community-college level, or for a career in such professional fields as publishing or translation. The literature (M.A. LIT) option is for active professionals who wish to further their expertise in literature and for students who wish to prepare for work on a Ph.D. in literature and criticism. The teaching English (M.A. TE) option is for in-service secondary English teachers who wish advanced in-depth study in the teaching of English and for students with the bachelor's degree in English (or its equivalent) who wish to pursue initial Secondary English certification. The M.A. TESOL option prepares students in the theory and practice of teaching English to speakers of other languages in a variety of settings within (ESL) and outside (EFL) the United States.

IUP's M.A. in English has courses available in both summer sessions and during the academic year. As there is no specific residency requirement for the M.A. at IUP, students are not required to attend the program full time during the academic year; much of the work may be accomplished over the course of several summers—although certain courses required in several of the programs are offered only during the normal academic year. However, the final six credits must be taken at IUP. Students attending full time can complete the M.A. in English in as little as a single year or may spread their work out over two or three years. Thus, the M.A. in English at IUP offers the advantages of both professional focus and personal flexibility.

M.A. Program Descriptions

M.A./Generalist

The Master of Arts Generalist (M.A. GEN) option is for students who wish course work in several areas of English. This track provides preparation for more advanced doctoral work, for teaching at the community-college level, or for careers in such professional fields as publishing or translation.

M.A. Generalist Course Requirements

A. Core Courses		15 cr.
ENGL 630	Research on the Teaching of Literacy and Literature	3 cr.

ENGL 643	TESL/TEFL Methodology	3 cr.
ENGL 674	Bibliographical Methods in English	3 cr.
ENGL 676	Critical Approaches to Literature	3 cr.
ENGL 692	American English Grammar	3 cr.

B. Literature/Linguistics Electives 12 cr.

Twelve additional semester hours, selected from the following list and approved by the director of Graduate Studies in Composition and TESOL and the director of Graduate Studies in Literature:

ENGL 632	Linguistics and the English Teacher	3 cr.
ENGL 675	Literature and the International Student	3 cr.
ENGL 703	Language and Cognition	3 cr.
ENGL 705	Language and Social Content	3 cr.
ENGL 760	Teaching College Literature	3 cr.
ENGL 761	Topics in American Literature Before 1870	3 cr.
ENGL 762	Topics in American Literature Since 1870	3 cr.
ENGL 763	Topics in British Literature Before 1660	3 cr.
ENGL 764	Topics in British Literature Since 1660	3 cr.
ENGL 765	Topics in Literature as Genre	3 cr.
ENGL 766	Topics in Comparative Literature	3 cr.
ENGL 771	Topics in Postmodern Literature	3 cr.
ENGL 772	Topics in Women's Literature	3 cr.
ENGL 773	Topics in American or British Minority Literature	3 cr.

C. Open Electives 9 cr.

Nine additional semester hours of electives approved by the director of Graduate Studies in Composition and TESOL and by the director of Graduate Studies in Literature and Criticism. Up to 6 of these semester hours may be taken outside the English department. In addition, with the approval of a thesis advisor, a student may, as part of this requirement, register for from 1 to 6 hours of ENGL 550 Thesis.

Total Credit Hours	36 cr.
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M.A./Literature

The Master of Arts Literature (M.A. LIT) is designed for students who wish to further their expertise in literature and for students who wish to prepare for work on a Ph.D. in British and American literature and criticism. The M.A. LIT option introduces students to a wide range of critical and theoretical approaches to traditional and nontraditional literary works.

M.A./Literature Course Requirements

A. Core Courses:		6 cr.
ENGL 674	Bibliographical Methods in English	3 cr.
ENGL 676	Critical Approaches to Literature	3 cr.
B. Period Courses:		12 cr.
ENGL 761	Topics in American Literature Before 1870	3 cr.
ENGL 762	Topics in American Literature Since 1870	3 cr.
ENGL 763	Topics in British Literature Before 1660	3 cr.
ENGL 764	Topics in British Literature Since 1660	3 cr.

C. Courses in Approaches to the Literary Canon**3 cr.***One course from among the following offerings:*

ENGL 766	Topics in Comparative Literature	3 cr.
ENGL 771	Topics in Postmodern Literature	3 cr.
ENGL 772	Topics in Women's Literature	3 cr.
ENGL 773	Topics in American or British Minority Literature	3 cr.

D. Literature Electives**9 cr.***Three courses from among the following:*

ENGL 675	Literature and the International Student	3 cr.
ENGL 760	Teaching College Literature	3 cr.
ENGL 761	Topics in American Literature Before 1870	3 cr.
ENGL 762	Topics in American Literature Since 1870	3 cr.
ENGL 763	Topics in British Literature Before 1660	3 cr.
ENGL 764	Topics in British Literature Since 1660	3 cr.
ENGL 765	Topics in Literature as Genre	3 cr.
ENGL 766	Topics in Comparative Literature	3 cr.
ENGL 771	Topics in Postmodern Literature	3 cr.
ENGL 772	Topics in Women's Literature	3 cr.
ENGL 773	Topics in American or British Minority Literature	3 cr.

E. Open Electives**6 cr.**

Six semester hours approved by the director of Graduate Studies in Literature from other graduate offerings in Literature, courses in Composition and TESOL, or courses outside the department in a related and appropriate field. With the approval of a thesis advisor, a student may, as part of this requirement, register for from one to six hours of ENGL 850 Thesis.

Total Credit Hours**36 cr.****M.A./Teaching English**

The Master of Arts/Teaching English (M.A./TE) is a 36-semester-hour degree program that involves the study of the research on teaching literature, composition, and language, through both academic course work and supervised field experiences. The M.A./TE program, which reflects recent studies of teacher development, is designed for in-service secondary English teachers who wish advanced, in-depth study in the teaching of English. Also, it is designed to meet the needs of persons with a bachelor's degree in English (or its equivalent) who wish to pursue initial English teaching certification. In addition to enrolling in the 36 semester hours of course work, students seeking initial certification must complete six semester hours of student teaching. Thus, the M.A./TE with certification will entail a total of 42 semester hours of course work and student teaching.

M.A./Teaching English Course Requirements**A. Core Courses:****15 cr.**

ENGL 630	Research in Teaching Literature and Literacy	3 cr.
ENGL 676	Critical Approaches to Literature	3 cr.
ENGL 692	American English Grammar	3 cr.
ENGL 693	Teaching English in Secondary School	3 cr.
ENGL 730	Teaching Writing	3 cr.

And one additional course from the following, approved by the director of Graduate Studies in Composition and TESOL, or designee:

ENGL 762	Topics in American Literature since 1870	3 cr.
ENGL 763	Topics in British Literature before 1660: Shakespeare	3 cr.
ENGL 772	Topics in Women's Literature	3 cr.
ENGL 773	Topics in American or British Minority Literature*	3 cr.

* Recommended for students seeking initial certification.

B. Electives in Teaching, Learning, and Schools:**6 cr.**

ENGL 690	Writing as a Way of Learning	3 cr.
EDSP 604	Advanced Educational Psychology	3 cr.
or EDSP 675	Learning and Instruction	3 cr.
or EDSP 677	Advanced Psychology of Adolescent Education	3 cr.
or EDSP 679	Advanced Studies in Behavior Problems	3 cr.
EDSP 577	Assessment of Student Learning	3 cr.
EDEX 650	Exceptional Children and Youth	3 cr.

Note: Students seeking initial certification as secondary teachers must take EDEX 650; EDSP 577; and EDSP 573, EDSP 578, or EDSP 604 to satisfy Pennsylvania Department of Education certification requirements. One of the above will count as a Professional Elective.

C. Professional Electives:**6 cr.**

Six semester hours to be chosen from graduate courses in the English Dept. or the College of Education and Educational Technology—approved by the director of Graduate Studies in Composition and TESOL, or designee.

Note: Students who have not had an undergraduate or graduate course in Adolescent Literature must take ENGL 518 Adolescent Literature to meet a certification requirement.

D. Professional Practice:**6 cr.**

ENGL 526	ESL Methods and Materials	3 cr.
ENGL 698	Internship	3 cr.

Note: Students seeking initial certification as secondary teachers must also student teach, as required by the Pennsylvania Department of Education. (Additional 6 cr.)

Total Credit Hours MA/TE**36 cr.****Total Credit Hours with Initial Certification****42 cr.**

M.A./Teaching English to Speakers of Other Languages

The Master of Arts/Teaching English to Speakers of Other Languages (M.A./TESOL) is designed to prepare students to teach English as a second or foreign language within the guidelines established by the professional organization, TESOL. The program combines both theory and practice as well as a variety of approaches.

M.A./Teaching English to Speakers of Other Languages Course Requirements

A. Core Requirements			15 cr.
ENGL 625	Introduction to TESOL	3 cr.	
ENGL 692	American English Grammar	3 cr.	
ENGL 643	TESL/TEFL Methodology	3 cr.	
ENGL 644	ESL Media and Materials	3 cr.	
ENGL 724	Second Language Acquisition	3 cr.	
B. Teacher Education Component			6 cr.
Students take <i>two</i> of the following courses:			
ENGL 688	Practicum in TESOL	3 cr.	
ENGL 694	Observation of English Teaching	3 cr.	
ENGL 696	Internship in ESL	3 cr.	
C. TESOL Electives			9 cr.
Students choose any <i>three</i> from the following courses:			
ENGL 632	Linguistics and the English Teacher	3 cr.	
ENGL 641	Topics in ESL Pedagogy	3 cr.	
ENGL 699	Independent Study	3 cr.	
ENGL 723	Second Language Teaching	3 cr.	
ENGL 725	Second Language Literacy	3 cr.	
ENGL 730	Teaching Writing	3 cr.	
ENGL 742	Cross-Cultural Communication	3 cr.	
ENGL 744	Reading Theory	3 cr.	
D. Open Electives			6 cr.
Students choose <i>two</i> other courses (500 level or higher).			
Total Credits			36 cr.

Doctor of Philosophy Programs

There are two distinct doctoral programs in English, one in Literature and Criticism and one in Composition and TESOL. Both programs lead to a Doctor of Philosophy in English.

I. Literature and Criticism

The Literature and Criticism Program's Doctor of Philosophy in English is designed for present or future teachers at the college or university level. It features both a regular academic year program and a very active summer program for established teachers who wish to complete their degrees in the summers only. The program develops students' abilities to examine literature critically, to teach literature effectively, and to make professional contributions in the field. Courses emphasize the role of theory in understanding literature, and students are asked to apply theory to their teaching and research in the concluding Advanced Seminars. The Traditional Literature courses reinforce the student's understanding of historical, cultural, and intellectual contexts. The Special Literatures section mirrors the acceptance of new works in the canon. The focus on scholarly skills in the seminars and the mentoring relationships with professors assure that students will acquire a professional competence in literature and critical theory.

The Literature Program has rolling admissions throughout the year. Please note that applications are not encouraged from students who are not already employed in teaching English or who do not have prior teaching experience. Because of the limited opportunity for gaining teaching experience on campus, student classroom teaching experience as part of the degree program cannot be guaranteed.

Early in the program, each doctoral student chooses or is assigned a faculty mentor to provide guidance and advice on becoming professionally active. The main components of the program are course work, a candidacy examination (taken approximately midway in the course work), proof of a language proficiency, the completion of a research skills requirement, comprehensive examinations, and the dissertation.

A minimum of 30 hours of course work (excluding the dissertation and, for certain students, the prerequisite ENGL 674 Bibliographical Methods in English) is required beyond the M.A.

Two core courses			6 cr.
ENGL 751	The History and Theory of Criticism	3 cr.	
ENGL 752	Literary Theory for the Teacher and Scholarly Writer	3 cr.	
Six courses may be elected from all 700-level courses in literature			18 cr.
<i>(At least two courses must be in Traditional Literatures)</i>			
ENGL 761	Topics in American Literature Before 1870	3 cr.	
ENGL 762	Topics in American Literature Since 1870	3 cr.	
ENGL 763	Topics in British Literature Before 1660	3 cr.	
ENGL 764	Topics in British Literature Since 1660	3 cr.	
ENGL 765	Topics in Literature as Genre	3 cr.	
ENGL 766	Topics in Comparative Literature	3 cr.	
<i>(At least one course must be in Special Literatures)</i>			
ENGL 771	Topics in Postmodern Literature	3 cr.	
ENGL 772	Topics in Women's Literature	3 cr.	
ENGL 773	Topics in American or British Minority Literature	3 cr.	
Two of the three Advanced Seminars			6 cr.
ENGL 783	Seminar: Literary Theory Applied to Major American Author or Theme	3 cr.	
ENGL 784	Seminar: Literary Theory Applied to British Author or Theme	3 cr.	
ENGL 785	Seminar: Comparative Literary Theory Applied to Traditional and Special Literature	3 cr.	
Total			30 cr.

The program director may permit students with particular programmatic needs to take up to six of the 30 hours in a closely related field such as rhetoric and linguistics, history, or philosophy.

After completing 12 to 18 hours of course work, the student must take a generalist literary essay examination for admission to candidacy and permission to take further elective courses and seminars. Candidacy depends upon satisfactory completion of this exam and the fulfillment of a 3.5 grade point average.

Following the completion of the 30 hours of course work, students take written comprehensive examinations in three areas (literary theory and practice as applied to a general list of authors and texts, a broadly defined area of literature, and a narrowly focused field of study), together with an oral defense of the

written exams. In addition, the program requires reading ability in a foreign language and the completion of a research skills requirement (either proficiency in a second foreign language or an additional six hours of graduate course work in a field related to a student's research needs). The final program requirement is the successful defense of dissertation, including registration for twelve dissertation credits. Further and more detailed information about the program is available in the *Program Handbook*, which may be obtained from the Office of the Director, Graduate Studies in Literature and Criticism, 111 Leonard Hall, 421 North Walk, IUP, Indiana, PA 15705. Phone: 724-357-2263; fax: 724-357-3056.

II. Composition and TESOL

The Composition and TESOL Program (formerly Rhetoric and Linguistics) began in 1975 and was revised in 1986 and again in 2000. Consistently, the program has been designed to meet the needs of English and TESOL (Teaching English to Speakers of Other Languages) instructors at two-year and four-year colleges and universities. The program's core courses provide a foundation for students to build a specialized course of study in composition or TESOL or both. This foundation is flexible enough to meet students' individual needs and the ever-changing needs of the academic marketplace. Moreover, the core curriculum enables students to connect theory with authentic practice. The program is designed to increase the professional qualifications and teaching effectiveness of instructors now in teaching positions.

The Composition and TESOL Program recognizes the changing structure of education and the interdisciplinary nature of research into the nature and transmission of fluent literacy, allowing the mature graduate student to design an innovative schedule of courses to meet his or her special needs. It provides central courses in research methods, technology and literacy, and language theory and offers options for a 9-credit specialization in Composition or TESOL. Students have 15 elective hours in the program, with courses offered in rhetoric, reading theory, and literacy theory. In addition, students may take courses from other programs, or they may opt to take the second specialization in the CT Program.

The emphasis of the program is on the flexible, yet intensive, preparation of instructors of literacy. To achieve this flexibility, the program is designed to permit variation in the fields of concentration. Course and program alternatives may be adjusted to reflect the personal goals of students in consultation with the Composition and TESOL Committee, a committee of those faculty members approved to teach Composition and TESOL graduate courses (see list of faculty). Nonetheless, all students study a common body of knowledge in central courses and focus inquiry and research on the uses of interdisciplinary knowledge for the transmission of literacy in the teaching of English.

Core Courses		9 cr.
ENGL 700	Introduction to Research	3 cr.
ENGL 708	Technology and Literacy	3 cr.
ENGL 703	Language and Cognition	3 cr.
or		
ENGL 705	Language and Social Context	3 cr.
Specialization		9 cr.
Composition Specialization		
ENGL 733	Theories of Composition	3 cr.
ENGL 730	Teaching Writing	3 cr.

ENGL 731	Rhetorical Traditions	3 cr.
or		
TESOL Specialization		
ENGL 723	Second Language Teaching	3 cr.
ENGL 724	Second Language Acquisition	3 cr.
ENGL 725	Second Language Literacy	3 cr.
Research		3 cr.
ENGL 715	Qualitative Research Methods in Rhetoric and Linguistics	3 cr.
or		
A course in another department, such as		
EDSP 626 Applied Educational Research Methods		
Electives		15 cr.
ENGL 632	Linguistics and the English Teacher	3 cr.
ENGL 745	Theories of Literacy	3 cr.
ENGL 742	Cross-Cultural Communication	3 cr.
ENGL 744	Reading Theory and the College English Teacher	3 cr.
ENGL 746	Advanced Seminar in Literacy	3 cr.
ENGL 748	Advanced Topics in Linguistics	3 cr.
ENGL 797	Independent Seminar	3 cr.

Courses in other programs such as Literature or specific courses such as CLRR 715 Writing for Professional Publication

Total Course Hrs.	36 cr.
Dissertation	12 cr.

Department of Geography and Regional Planning

IUP's Department of Geography and Regional Planning offers graduate programs leading to the degrees of Master of Science and Master of Arts in geography. The M.S. and M.A. programs are designed to prepare students for a variety of careers as geographers in business, government, research, environmental, and planning organizations or for entry to a doctoral program at another university. Emphasis is placed upon developing professional competence in the tools, substance, methodology, and geographic theories.

Graduates of the program are employed by the state and federal government, city, county, and regional planning commissions, private consultant and engineering firms, business and industry, and colleges and universities. Knowledge of environmental processes, the organization and operation of the planning field, and geographic information systems are of value to the graduate in the job search.

Students who enter the program usually hold a bachelor's degree in geography or one of the social sciences. Persons with degrees in education, science, or business also may qualify and often find a degree in geography of value. Applicants must take the Graduate Record Exam before they will be admitted to precandidacy status.

Master of Arts students may pursue geographic themes of study and research such as population, urban/economic, or cultural/historical. Recent faculty research papers and publications have examined rural planning, Eastern Europe, economic development, geographic information systems, regional input-output analysis, population patterns, religious landscapes, microcomputers, and geographic education. Faculty members

serve in various capacities in the Association of American Geographers, Pennsylvania Planning Association, and several other professional organizations. The Spatial Sciences Research Center, an entity that facilitates grant-funded academic research and contract work, is located within the department.

The Master of Science program requires the student to complete a fifteen-credit track in GIS/Cartography, Regional Planning, or Environmental Planning. Each track includes two required courses and a list of options.

In either program, selected courses in related fields may be applied toward the degree. All students will be expected to demonstrate proficiency in cartography in their thesis or portfolio. Both a thesis or non-thesis option are available in either the M.S. or M.A. program. For students selecting the non-thesis option, a portfolio is a nongraded graduation requirement. A three-person faculty committee will evaluate the portfolio, which will include at least three of the student's best pieces of work and written reflective analysis. The portfolio is submitted by the end of the first week of the semester the student is scheduled to graduate.

Both graduate degree programs require a minimum of 33 semester hours of credit (including the thesis credits) for the thesis option or 39 hours for the non-thesis option. Three core courses must be included: GEOG 610, GEOG 612, and GEOG 614. Students may arrange an internship as part of their degree electives up to six credits.

Master of Arts in Geography

I. Core Program	9 cr.
GEOG 610 Research in Geography and Regional Planning	3 cr.
GEOG 612 Quantitative Techniques in Geography and Regional Planning	3 cr.
GEOG 614 Thought and Philosophy in Geography and Regional Planning	3 cr.

Electives and/or Thesis

either

A. Thesis Option	24 cr.
Electives in GEOG and related fields	18-23 cr.
GEOG 550 Thesis	1-6 cr.

or

B. Non-thesis Option	30 cr.
Electives in GE and related fields	

Master of Science in Geography

I. Core Program	9 cr.
GEOG 610 Research in Geography and Regional Planning	3 cr.
GEOG 612 Quantitative Techniques in Geography and Regional Planning	3 cr.
GEOG 614 Thought and Philosophy in Geography and Regional Planning	3 cr.

II. Tracks (Choose one)

GIS Cartography Track	15 cr.
<i>Five courses from among the following.</i>	
GEOG 513* Cartography	3 cr.
GEOG 514 Map and Photograph Interpretation	3 cr.
GEOG 515 Remote Sensing	3 cr.
GEOG 516* Introduction to GIS	3 cr.
GEOG 517 Technical Issues in GIS	3 cr.

GEOG 571 Aerospace Workshop	3 cr.
GEOG 617 Field Techniques in Geography and Planning	3 cr.
GEOG 618 GIS Applications Development	3 cr.

B. Regional Planning Track

Five courses from among the following.

GEOG 531 Population Geography	3 cr.
GEOG 532 Urban Geography	3 cr.
GEOG 533 Geography of Trade and Transportation	3 cr.
GEOG 534 Political Geography	3 cr.
GEOG 536 Social Geography	3 cr.
GEOG 550 Introduction to Planning	3 cr.
GEOG 552* Planning Methods	3 cr.
GEOG 554 Planning Design	3 cr.
GEOG 558 Land Use Law	3 cr.
GEOG 564* Land Use Policy	3 cr.
GEOG 568 Planning Theory	3 cr.
GEOG 617 Field Techniques in Geography and Planning	3 cr.
GEOG 620 Spatial Structure of the Economy	3 cr.
GEOG 623 Regional Development	3 cr.
GEOG 625 Environmental Planning	3 cr.
GEOG 633 Settlement Geography	3 cr.
GEOG 665 Plan Implementation	3 cr.
PLSC 668 Public Sector Financial Administration	3 cr.

C. Environmental Planning Track

Five courses from among the following.

GEOG 515 Remote Sensing	3 cr.
GEOG 516 Introduction to GIS	3 cr.
GEOG 540* Conservation: Environmental Analysis	3 cr.
GEOG 541 Climatology	3 cr.
GEOG 542 Physiography	3 cr.
GEOG 558 Land Use Law	3 cr.
GEOG 564 Land Use Policy	3 cr.
GEOG 617 Field Techniques in Geography and Planning	3 cr.
GEOG 623* Environmental Planning	3 cr.

Electives and/or Thesis

either

A. Thesis Option	9 cr.
Electives in GE and related fields	3-8 cr.
GEOG 550 Thesis	1-6 cr.

or

B. Non-thesis Option	15 cr.
Electives in GE and related fields	

A three- or six-semester-hour internship may be included as an elective in the M.S. program.

* Required course for the track

Department of History

The Department of History offers the M.A. degree with either a thirty-credit (thesis) or a thirty-six-credit (non-thesis) option. Students must complete a research requirement and a subject matter requirement. A wide range of courses in American, European, and public history are available.

Traditionally, most historians have become teachers. But increasingly, historians are seeking employment in nonteaching fields, including careers in museum, archival, or library work or in tourism and travel. Historical societies provide editorial and administrative openings, and publishing companies hire historians for both sales and editorial services. The history graduate program is designed to provide students with training appropriate to a wide range of professional goals in the field of history.

A minimum of 30 semester hours is required, or 36 semester hours for those electing not to write a thesis or electing to pursue the Public History track. Within these general requirements is a nine-semester-hour research requirement consisting of HIST 614 Research Methods (or a substitution approved by the department) and a combination of seminars and/or thesis hours. The remaining hours are selected from the subject matter courses. Six semester hours may, with approval, be from related disciplines.

Students pursuing the Public History track must complete 36 semester hours as outlined below:

I. Research requirement

HIST 614	Research Methods	3 cr.
HIST 550	Thesis	6 cr.

or

Two seminars (one with a local history focus)

II.

HIST 605	Introduction to Public History	3 cr.
HIST 606	Topics in Public History ¹	3 cr.

III.

Internship	6 cr.
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IV. Approved electives 15 cr.

Failure to consult the department prior to registering for courses may delay the completion of a master's degree.

- Under special circumstances, another appropriate course in a public history specialization may be substituted for HIST 606.

Department of Political Science

The Political Science Department offers the M.A. in Public Affairs degree, concentrating on Public Administration with several alternative field specializations.

Master of Arts in Public Affairs

The M.A. in Public Affairs program is designed for full- and part-time students who are seeking or are currently engaged in professional careers as administrators, project directors, staff analysts, and supervisors in government and human service agency delivery systems, trade unions, and interest groups; teachers of the social studies; and those interested in

international development and comparative administration or in becoming foreign service professionals.

Admission Requirements: The requirements for admission are: (1) an undergraduate cumulative grade point average of 2.8 or better; (2) undergraduate course work in political science, economics, and public or international affairs or equivalent professional experiences (in some cases, this may require specific remedial course work that will not count toward degree requirements); (3) for international students, a TOEFL score of 550 or better; (4) for students with an undergraduate degree from an American college or university, a combined GRE score of 1050.

Degree Requirements: The M.A. in Public Affairs requires thirty-six or thirty-nine graduate credits, including a thesis or a practicum. Students develop a core competence in methodology and in public administration and also select one of six interdisciplinary field specializations.

Public Affairs		36-39 cr.
1. Methodology Core		6-9 cr.
PLSC 500	Research Methods in Political Science [1]	3 cr.
PLSC 674	Analytical Techniques	3 cr.
CRIM 605	Research Methods	3 cr.
or		
GEOG 612	Quantitative Techniques in Geography and Regional Planning	
or		
GSR 615	Elements of Research	
or		
SOC 665	Microcomputing Applications in Sociology	
2. Public Administration Core		12 cr.
PLSC 570	Introduction to Public Administration	3 cr.
PLSC 666	Public Policy Analysis	3 cr.
PLSC 668	Public Sector Financial Administration	3 cr.
or		
PLSC 670	Foreign Policy Studies [2]	
or		
PLSC 672	Comparative Political Studies [2]	
or		
PLSC 675	International Political Economy [2]	
and		
PLSC 671	Seminar in Public Administration	3 cr.
3. Field Specializations		15 cr.
Students must select one of the following with advice from a field specialization advisor: Criminal Justice Administration; Planning and Regional Development; Human Services Administration; Human Resources Management; Local Government Management; or International Development Administration.		

4. Directed Research Requirement 3 cr.

- Students must complete PLSC 690, Practicum, which includes a supervised field-based research project at a site appropriate to the student's specialization.

or

- Students may opt to write a thesis (PLSC 850). The thesis must conform to criteria published by the School of Graduate Studies and Research.

[1] A student whose undergraduate transcript shows "B or better" performance in a Research Methods in Political Science course may petition the MAPA program for exemption from PLSC 500. The

exemption will be determined by examination by qualified faculty in the Department of Political Science.

- [2] Students who elect to pursue the International Development Administration field specialization will enroll for either PLSC 670 Foreign Policy Studies or PLSC 672 Comparative Political Studies or PLSC 675 International Development Administration, instead of PLSC 668 Public Sector Financial Administration.

Department of Sociology

Advanced training in sociology should enable students to think insightfully and critically about society and human relationships and to serve more effectively in a variety of professions. The department's M.A. in Sociology prepares students for employment in human services, government agencies, corporations, higher education, and social research positions. Recent graduates are working as directors of human services agencies, alcohol treatment supervisors, domestic violence program staff members, medical social workers, mental health professionals, social policy researchers, and college professors. The M.A. in Sociology is designed to prepare students for such opportunities with two programs of study: the General Sociology Program and the Human Services Program.

In addition to School of Graduate Studies and Research admissions requirements, the applicants to the Sociology M.A. program should have completed at least 12 hours of undergraduate social science courses with an average of "B" or better. Students not meeting this requirement may be admitted if they agree to take additional undergraduate or graduate sociology courses designated by the department.

Master of Arts in Sociology

Students select either a six-credit thesis option or a non-thesis option. Students selecting the thesis option must successfully complete a six-credit thesis (see requirements for the thesis listed under the catalog description for SOC 850). Including the six-credit thesis, the thesis option requires a total of 36 credit hours for those in both the General Sociology and the Human Services Programs. The non-thesis option in both programs requires a total of 36 credit hours and successful completion of a comprehensive exam.

Additional courses are available from other departments on related topics such as counseling, individual assessment, women's studies, criminology, cross-cultural studies, public policy and finance, community and urban planning, statistical analysis, and program evaluation. Up to nine credit hours may be taken outside the department. No more than one-third of a student's total credit hours may be dual-level (500-level) courses. Students who enrolled for dual-level courses while undergraduates at IUP may not repeat the same courses for credit as graduate students.

General Sociology Program

The General Sociology Program is designed especially for those students preparing for research professions, doctoral studies, or teaching in the social sciences.

I. Required Core			9 cr.
SOC 664	Research Seminar in Sociology	3 cr.	
SOC 665	Microcomputing Applications in Sociology	3 cr.	
SOC 667	Contemporary Sociological Theory	3 cr.	

II. Either

A. (Thesis Option)

SOC 850	Thesis	6 cr.	
Approved electives (including at least 9 cr. in Area of Specialization)		21 cr.	
or			

B. (Non-thesis Option)

Approved electives (including at least 9 cr. in Area of Specialization)		27 cr.	
Comprehensive exam		0 cr.	

III. Areas of Specialization (choose one)¹

- A. Sociology of Deviance
- B. Sociology of the Family/Sociology of the Lifecourse
- C. Medical Sociology
- D. Sociology of Organizations
- E. Social Stratification
- F. Social Change

A specialization enables the student to select a combination of three to five courses (including courses from various other departments) focusing on a particular area of interest. Complementary courses are offered in Women's Studies, Clinical Psychology, Counselor Education, Criminology, Public Administration, Adult and Community Education, Political Science, History, and other departments or programs.

Human Services Program

The Human Services Program is designed to prepare students to work in a variety of human service fields and to offer advanced training for those already employed in human service professions. The Human Services Program is designed for those interested in service delivery to special client groups like the aging, the abused, and the alcohol dependent, or for those interested in human service administration or evaluation.

I. Required Core			15 cr.
SOC 610	Sociology of Human Services	3 cr.	
SOC 611	Human Services Administration	3 cr.	
or			
SOC 612	Methods for Sociological Practice	3 cr.	
SOC 664	Research Seminar in Sociology	3 cr.	
SOC 665	Microcomputing Applications in Sociology	3 cr.	
SOC 667	Contemporary Sociological Theory	3 cr.	

II. Internship

SOC 698	Internship	6 cr.	
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6 cr.

III. Areas of Specialization (Choose one)¹

- A. Administration and Evaluation of Human Services
- B. Alcohol and Drug Abuse
- C. Health and Medicine
- D. Children and Families
- E. Aging

A specialization enables the student to select a combination of three to five courses (including courses from various other departments) focusing on a particular area of interest. Complementary courses are offered in Women's Studies, Clinical Psychology, Counselor Education, Criminology, Public Administration, Adult and Community Education, Political Science, History, and other departments or programs.

IV. Either**A. (Thesis Option)**

SOC 850 Thesis	6 cr.
Approved electives in a chosen area of specialization	9 cr.

or

B. (Non-Thesis Option)

Approved electives including at least 9 cr. in a chosen area of specialization ²	15 cr.
Comprehensive exam	0 cr.

Both thesis and non-thesis options in the Human Services Program require a total of 36 credit hours.

- Students may also design their own specialization, with the approval of the graduate coordinator.
- No more than 9 of these 15 semester hours of approved electives may be from outside the department.

Doctor of Philosophy in Administration and Leadership Studies

The Ph.D. program in Administration and Leadership Studies is designed to educate administrators in social service, health care, government agencies, higher education, and other public and nonprofit organizations. This program has been offered by the Sociology Department since 1998 in collaboration with the Department of Political Science.

Classes are designed to accommodate the schedules of working professionals and are offered throughout the year, including summers. The 60-credit program admits between fifteen and twenty students at a time. The program is offered in two locations, at the main campus in Indiana, Pennsylvania, and at the Dixon University Center of the State System of Higher Education in Harrisburg, Pennsylvania. New student cohorts are admitted every other year at each site, alternating between the Indiana and Harrisburg programs.

The program focuses on leadership approaches, research and evaluation methods, and policy and administrative applications. Focused electives may be selected from a variety of departments, including Sociology, Political Science, Geography, Industrial and Labor Relations, Criminology, Management, Adult and Community Education, and others. For detailed information about the program, you may contact the program coordinator at 724-357-2730 or ALS-PHD@iup.edu. The program's website may be viewed at www.iup.edu/als

Program Requirements Core		18 cr.
HMSV 701 Leadership Theories	3 cr.	
HMSV 702 Leadership: A Case Study Approach	3 cr.	
HMSV 703 Leadership: Applied Practice	3 cr.	
SOC 610 Sociology of Human Services	3 cr.	
SOC 611 Human Service Administration	3 cr.	
SOC 701 Social Policy Issues	3 cr.	
Research		18 cr.
HMSV 601 Analysis of Social Data	3 cr.	
SOC 664 Research Seminar in Sociology	3 cr.	
SOC 764 Seminar in Applied Human Services Research	3 cr.	
HMSV 950 Dissertation	9 cr.	

Field Experience

6 cr.

HMSV 798 Field Experience in Administration and Leadership Studies	6 cr.
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In addition, students are expected to take a minimum of nine semester hours from the courses in Group A and nine additional hours from Group A, Group B, or other courses with the approval of the adviser. Selected courses should focus on the student's primary area of interest, e.g., higher education; human resources; individual and family services; health care; policy analysis.

Group A:

PLSC 631 Human Resource Management	3 cr.
PLSC 666 Public Policy Analysis	3 cr.
PLSC 668 Public Sector Financial Administration	3 cr.
PLSC 671 Seminar in Public Administration	3 cr.
PLSC 675 Ethical Dimensions of Leadership	3 cr.
SOC 612 Methods for Sociological Practice	3 cr.
SOC 642 Industrial Sociology	3 cr.
SOC 654 Social Inequality	3 cr.
SOC 656 Social Change	3 cr.

Group B:

ACE 621 The Adult Learner	3 cr.
ACE 622 Program and Process Development in Adult and Community Education	3 cr.
ACE 623* Organization and Administration in Adult and Community Education	3 cr.
COUN 639* Group Procedures	3 cr.
COUN 646 Interpersonal Sensitivity	3 cr.
CRIM 730 Ethical and Philosophical Issues in Criminology	3 cr.
CRIM 740 Advanced Criminal Justice Policy	3 cr.
FIN 630* Financial Management	3 cr.
GEOG 550 Introduction to Planning	3 cr.
GEOP 665* Plan Implementation	3 cr.
IFMS 640* Management Information Systems	3 cr.
ILR 610 Employee Rights Under Law	3 cr.
ILR 613 Fundamentals of American Industrial and Labor Relations	3 cr.
ILR 621 Labor Relations in the Public Sector	3 cr.
ILR 625 Processes of Collective Bargaining	3 cr.
ILR 632 Compensation Administration	3 cr.
ILR 640* Negotiations	3 cr.
ILR 641* Contract Administration	3 cr.
MGMT 613* Organizational Analysis	3 cr.
MGMT 630* Management Theory	3 cr.
SOC 621 Sociology of Health Care	3 cr.
SOC 630 Seminar in Alcohol and Drug Abuse	3 cr.
SOC 632 Addiction and the Family	3 cr.
SOC 636 Sociology of the Family	3 cr.
SOC 640 Community Development and Social Policy	3 cr.
SOC 657 Aging and Society	3 cr.
SOC 662 The Sociology of Deviance	3 cr.
SOC 681 Special Topics	3 cr.
SAHE 626 History of Higher Education	3 cr.
SAHE 627 Student Affairs Functions in Higher Education	3 cr.

* Prerequisite or permission required

72 College of Natural Sciences and Mathematics

The College of Natural Sciences and Mathematics at IUP offers graduate degrees in Biology (M.S.), Chemistry (M.S. and M.A.), Mathematics (M.S. and M.Ed.), Physics (M.S. and M.A.), and Clinical Psychology (Psy.D.).

Department of Biology

The Department of Biology offers a Master of Science degree that is intended both for the student who wishes to pursue further graduate work leading to the Ph.D. degree, as well as those who desire the M.S. degree as a means to seek a career as a biologist in a number of different professions. The M.S. degree in Biology has two alternatives, the thesis and non-thesis options. The thesis option is research oriented, with an emphasis on a comprehensive research project under the supervision of a thesis advisory committee. The non-thesis option also requires a research component that is under the direction of a faculty member. Both alternatives are intended to provide the student with a well-rounded biology background, as well as furnish the research skills required for postgraduate positions.

Requirements for Admission

To be admitted to the Department of Biology, the applicant must have completed the requirements for a bachelor's degree from an accredited college or university. These requirements should include a major in Biology (or related subject), one year of inorganic chemistry, one semester of organic chemistry, and one semester of calculus or statistics. Applicants with undergraduate deficiencies may be required to register for prerequisite courses.

The departmental requirements for candidacy for the M.S. degree are

- Satisfactory completion of 15 semester hours of graduate work, with at least eight hours in core courses.
- The selection of a thesis advisor and a committee of at least two additional faculty members (in the case of the thesis student) or a research advisor (in the case of non-thesis student) to guide the candidate in completing the program.
- An official application to candidacy, including a research

proposal approved by the advisor, must be submitted to the Biology Department Graduate Committee.

Candidates are expected to maintain an average not lower than 3.0. Continuance in the graduate program for those receiving two individual course grades below a "B" is contingent upon favorable review of the Graduate Committee.

Master of Science in Biology

Students working for this degree will complete 35 semester hours of work in accordance with the following divisions. Students may pursue either a thesis or a non-thesis option.

I. Core Courses

Thesis option - 20 semester hours

Non-thesis option - 17 semester hours

A. Required Courses

<i>Thesis option</i>		11 cr.
BIOL 602	Biometry	3 cr.
BIOL 611	Biology Seminar I	1 cr.
BIOL 612	Biology Seminar II	1 cr.
BIOL 850	Thesis	6 cr.

Non-thesis option

BIOL 602	Biometry	3 cr.
BIOL 611	Biology Seminar I	1 cr.
BIOL 612	Biology Seminar II	1 cr.
BIOL 699	Independent Study	3 cr.

B. Core Elective Requirement

For both options, the nine remaining hours of course credit are to be selected from biology electives and must include one cell/molecular course, one organismal course, and one ecology course.

II. Elective Courses

Thesis option: 15 semester hours

Non-thesis option: 18 semester hours

Courses to be selected with the approval of the advisor from the 500- and 600-level biology elective courses or from related science and mathematics courses.

III. Competency Exam

Every student must take a competency exam administered by the candidate's advisory committee. The purpose of this examination is to assure that all graduates have a broad-based knowledge of biology, as

well as a mastery of their subject matter pertaining directly or indirectly to their research project.

This examination must be scheduled after completion of 18 semester hours but before completion of 27 semester hours. If a student fails this exam, a second exam will be administered which, at the discretion of the committee, can be oral or written. This exam must be taken within a four-month period following the first exam. Failure of the second exam will result in dismissal from the program.

IV. Research Requirement for the M.S.

A. Non-thesis option—The candidate must conduct an original research project under the direction of a faculty advisor. A report in the format of a journal article must be submitted at the conclusion of the study. This requirement is programmed as BIOL 699, Independent Study.

B. Thesis option—The candidate must conduct original research under the direction of the thesis advisory committee and present a research thesis at the conclusion of the program. The candidate registers for BIOL 850, Thesis, while engaged in research and preparation of the thesis. The candidate will present a public seminar, reporting results of the research, and an oral defense before the thesis committee.

In many courses in the Department of Biology, additional laboratory time may be required beyond the regularly scheduled periods.

Department of Chemistry

The Chemistry Department offers two different degree programs on the master's level: the Master of Science and the Master of Arts degrees.

The Master of Science degree is for the chemist who intends to pursue further graduate work leading to a Ph.D. or who intends to work as a professional chemist and desires to become more competent in chemistry. This degree is research oriented, and successful completion of an experimental thesis is required. Also, two consecutive semesters of residency are required.

The Master of Arts degree is designed to meet the needs of the chemist who is currently a full-time employee of a chemical or academic institution and who wishes strengthening in those areas relevant to the professional position. The emphasis here is on course work. The student may also pursue this degree on a full-time basis.

Four core courses, one in each of the areas of inorganic, organic, analytical, and physical chemistry, are required in the M.S. and M.A. programs.* Beyond this point, the programs separate, with the M.S. student taking more specialized work in chemistry along with an experimental research problem. The M.A. candidate will take more specialized work in chemistry and will be encouraged to take courses outside the sciences if they are relevant to the particular area of employment.

General admissions requirements: Students should have completed one year each of inorganic chemistry, analytical chemistry, organic chemistry, physical chemistry, general physics, and calculus. Students wishing to specialize in biochemistry should also have had an undergraduate course in biochemistry.

A student deficient in the above areas of study may also be admitted provided these deficiencies are made up concurrently with the student's graduate studies.

*An exception to this is afforded the student wishing to specialize in biochemistry.

Master of Arts in Chemistry

I. Industrial/teaching experience: Before the degree of M.A. in chemistry can be granted, the applicant must have had at least three years of full-time employment in an approved area of chemistry. Only those years of employment after obtaining the bachelor's degree may be counted. This experience, in addition to the final six credits being taken at IUP, meets the university and departmental residency requirements.

II. Core Courses

CHEM 540	Physical Chemistry	3 cr.
CHEM 600	Seminar*	2 cr.
CHEM 610	Inorganic Chemistry	3 cr.
CHEM 620	Analytical Chemistry	3 cr.
CHEM 630	Organic Chemistry	3 cr.

14 cr.

III. Course Electives

Any graduate-level courses selected from the natural sciences and mathematics with the permission of the candidate's advisor. Special permission from the Chemistry Department's Graduate Committee will be required for courses outside the sciences.

(10 to 16 cr.)

IV. Thesis Requirements

The student has two options:

A. Thesis not required—A total of 30 semester hours in suitable courses is acceptable.

B. Committee thesis (CHEM 850-4 cr.)—If the candidate is doing research as part of full-time employment, that research may be submitted as a thesis, provided approval is given in advance by the employer and the Chemistry Department's Graduate Committee. The candidate's employment supervisor may serve as an ex-officio member of the thesis committee.

(0 or 4 cr.)

* The M.A. candidate is not required to attend all daytime seminars but is required to present two seminars and is expected to attend the evening seminars.

Master of Science in Chemistry

I. Residence Requirements: The student shall be in residence a minimum of two consecutive semesters of full-time work. Students working as graduate assistants and/or making up deficiencies can expect to be in residence for at least two years.

II. For those specializing in analytical, inorganic, organic, or physical chemistry:

A. Required Courses

CHEM 540	Physical Chemistry	3 cr.
CHEM 610	Inorganic Chemistry	3 cr.
CHEM 620	Analytical Chemistry	3 cr.
CHEM 630	Organic Chemistry	3 cr.
An additional three-semester-hour 600-level chemistry course selected from analytical, inorganic, organic, or physical chemistry		3 cr.

15 cr.

B. Electives

The student may, with the advice and approval of the advisor, select electives from chemistry, physics, biology, or mathematics. CHEM 500 Special Studies can provide a maximum of three semester hours toward the 30 semester hours necessary for the degree.

III. For those specializing in biochemistry:**A. Required Courses**

CHEM 646	Biochemistry	3 cr.
CHEM 623	Physical and Chemical Methods of Separation	3 cr.
CHEM 630	Organic Chemistry	3 cr.
BIOL 662	Molecular Genetics of Eukaryotes	3 cr.

B. Electives

a minimum of 9 cr.

at least one of the following:

BIOL 553	Physiology of Plants	3 cr.
BIOL 652	Microbial Physiology	3 cr.
BIOL 653	Animal Physiology	3 cr.
BIOL 654	Endocrinology	3 cr.

and any graduate courses in the natural sciences and mathematics mutually agreed upon by the student and advisor

IV. Research and Thesis Requirements:

A. The research work must lead to an acceptable thesis, approved by the student's advisor and the supervisory committee and defended in a final oral examination.

B.	CHEM 600 Seminar	2 cr.
C.	CHEM 690 Research	for at least 3 cr.
D.	CHEM 550 Thesis	4 cr.

To be taken during the term in which student is writing the M.S. thesis.

6 cr.

MATH 546	Probabilistic Models in Operations Research	3 cr.
MATH 563	Mathematical Statistics I	3 cr.
MATH 564	Mathematical Statistics II	3 cr.

* Required unless comparable courses have been completed at the undergraduate level

II. Controlled Electives**

15 cr.

MATH 547	Simulation Models	3 cr.
MATH 551	Numerical Methods for Supercomputers	3 cr.
MATH 571	Linear Algebra	3 cr.
MATH 641	Differential Equations	3 cr.
MATH 643	Graphs, Networks, and Combinatorics	3 cr.
MATH 645	Nonlinear Programming Models	3 cr.
MATH 661	Advanced Sampling Theory	3 cr.
MATH 663	Nonparametric Statistics	3 cr.
MATH 665	Applied Regression Analysis	3 cr.
MATH 684	Topics in Operations Research	3 cr.
MATH 685	Topics in Statistical Methods	3 cr.
MATH 688	Problems in Applied Mathematics	3 cr.

** At least 12 cr. must be at the 600 level.

III. Additional Electives***

Other graduate-level mathematics courses may be selected with the approval of the student's advisor. Also, with the advisor's approval, up to six semester hours of graduate work may be taken in disciplines such as chemistry, computer science, economics, finance management information systems, and physics.

***The MS in Applied Mathematics requires a minimum of 27 cr. of course work in addition to the research requirement listed below.

IV. Research Requirements

3-6 cr.

Option I

MATH 550	Thesis	3 cr.
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or

Option II

MATH 698	Internship	6 cr.
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Total**30-33 cr.**

Department of Mathematics

The Mathematics Department offers three graduate degrees: the Master of Science in Applied Mathematics, the Master of Education in Mathematics, and the Master of Education in Elementary and Middle School Mathematics Education.

Master of Science in Applied Mathematics

The M.S. program in Applied Mathematics is designed to produce graduates who are marketable in industry, government, and education. It also provides a solid background for those planning to pursue a Ph.D. program. Faculty members offer courses in the areas of operations research, statistics, and traditional applied mathematics. The department houses state-of-the-art computer facilities, including Silicon Graphics, Inc., machines, with which faculty and students engage in activities such as simulation and statistical analysis. Most classes are offered at times convenient for nontraditional students who wish to advance their careers in applied mathematics or secondary education. Students have the option of writing a thesis or participating in an internship.

Program Requirements

I. Core Courses*

15 cr.

MATH 525	Applied Mathematical Analysis I	3 cr.
MATH 545	Programming Models in Operations Research	3 cr.

II. Foundations of Education Electives

3 cr.

FDED 514	Comparative Foundations of Education	3 cr.
FDED 611	Historical Foundations of Education	3 cr.
FDED 612	Philosophical Foundations of Education	3 cr.
FDED 613	Social Foundations of Education	3 cr.

III. Educational Psychology Electives

3 cr.

EDSP 604	Advanced Educational Psychology	3 cr.
EDSP 573	Psychology of Adolescent Education	3 cr.
EDSP 576	Behavior Problems	3 cr.

EDSP 578	Learning	3 cr.
COUN 629	Group Procedures	3 cr.
COUN 639	Group Procedures	3 cr.
EDEX 650	Exceptional Children and Youth	3 cr.

III. Research Requirement 3 cr.

GSR 615	Elements of Research	3 cr.
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IV. Mathematics Education Electives 6 cr.

MATH 650	History of Mathematics	3 cr.
MATH 651	Seminar in Teaching Junior High School Mathematics	3 cr.
MATH 652	Seminar in Teaching Senior High School Mathematics	3 cr.
MATH 654	Curriculum and Supervision in Mathematics	3 cr.
ELMA 651	The Laboratory Approach to Teaching Mathematics*	3 cr.
ELMA 652	Diagnosis and Remedial Teaching of Mathematics*	3 cr.
ELMA 653	Mathematics for the Gifted Student*	3 cr.

V. Mathematics Content Electives 15 cr.

- a. Required unless comparable courses have been completed at the undergraduate level 0-6 cr.
- | | | |
|----------|---------------------|-------|
| MATH 521 | Advanced Calculus I | 3 cr. |
| MATH 576 | Abstract Algebra I | 3 cr. |
- b. Any graduate-level mathematics content courses other than those listed in part a. 9-15 cr.

* With special permission from the advisor, these courses are acceptable for fulfillment of the Mathematics Education requirement.

Master of Education in Elementary and Middle School Mathematics Education

An integral part of the program will be to familiarize students with recent developments in curriculum, instruction, and implementation of contemporary mathematics programs in elementary and middle schools. Upon completion of the program, the student will be prepared to serve as a resource teacher, mathematics teacher in a departmentalized situation, coordinator, or in other leadership roles in an elementary or middle school mathematics program. For teachers in public schools, the program meets the credit requirements for Instructional Level II certification. It does not provide 7-12 certification for those who hold a K-6 Level I certificate.

Students have three options for the completion of the program leading to a Master of Education degree in Elementary and Middle School Mathematics Education.

Option 1: Primarily designed for those who wish to pursue a degree after the master's degree. The requirements are 27 hours of course work and a three-hour committee thesis.

Option 2: Primarily designed for those who will take a leadership role in the school. The requirements are 30 hours of course work and written comprehensive examination.

Option 3: Primarily designed for the classroom teacher who wishes to update skills. The requirements are 36 hours of course work with no thesis or comprehensive examination required.

Students must satisfy the following course requirements:

I. Professional Development 9 cr.

Required: 6 cr.

ELMA 650	Curriculum and Instruction in Elementary School Mathematics	3 cr.
EDSP 604	Advanced Educational Psychology	3 cr.

Elective: 3 cr.

Chosen from the graduate course offerings of the Department of Professional Studies in Education and the Department of Special Education and Clinical Services. Students should consult their advisor concerning prerequisites and appropriateness before scheduling these courses.

II. Educational Research 3 cr.

GSR 615	Elements of Research	3 cr.
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III. Curriculum and Instruction in Mathematics Education Electives 6 cr.

ELMA 651	The Laboratory Approach to Teaching Mathematics	3 cr.
ELMA 652	Diagnosis and Remedial Teaching of Mathematics	3 cr.
ELMA 653	Mathematics for the Gifted Student	3 cr.
ELMA 654	Teaching Problem Solving in the Elementary and Middle School	3 cr.
ELMA 655	Mathematics for Early Childhood	3 cr.
ELMA 698	Supervised Internship	3 cr.
ELMA 699	Elementary Math—Independent Study	3 cr.
ELMA 850	Thesis*	3 cr.

IV. Subject Matter Concentration Electives

Options 1 and 2 9 cr.

or

Option 3 15 cr.

ELMA 517	Introduction to Probability and Statistics	3 cr.
ELMA 520	Pre-Calculus Mathematics I	3 cr.
ELMA 556	Principles of Geometry I	3 cr.
ELMA 557	Introduction to Number Theory	3 cr.
ELMA 558	Introduction to Logic and Logical Games	3 cr.
ELMA 559	Computer-Related Topics in the Elementary and Middle School	3 cr.
ELMA 571	Basic Concepts of Algebra	3 cr.
ELMA 601	Basic Concepts in Mathematics I	3 cr.
ELMA 602	Basic Concepts in Mathematics II	3 cr.
ELMA 603	Teaching the Metric System	3 cr.
ELMA 681	Special Topics	3 cr.

V. Electives 3 cr.

Chosen from other courses in categories I, III, and IV above

VI. Comprehensive Exam

Option 2 only

* ELMA 850 is required for Option 1 only.

Department of Physics

The Department of Physics offers two graduate degrees at the master's level: the Master of Science and the Master of Arts in Physics. The Master of Science in Physics degree program is designed for students who plan to pursue further graduate work or to undertake research in an industrial position. The degree is research oriented, and a thesis is required. The Master of Arts in Physics program will generally be selected by students who wish to strengthen their physics background in preparation for more

advanced graduate study or to fulfill teaching certification requirements. This program emphasizes course work, and a thesis is optional.

Because of the wide range of possible courses, students are required to have the consent of their graduate advisors before selecting a course. An advisor is assigned to students as soon as they are accepted into the degree program.

Master of Arts in Physics

This program is the more flexible of the two graduate degree programs offered by the Department of Physics. Each student's program is designed to meet his or her individual needs and is developed with the student and advisor working together.

The educational goals of students in many categories can be met while they are working to attain degrees. Several examples of the category of student who may select this degree program are

1. The student whose undergraduate training is in Physics Education or Physical Science Education or Science Education with a strong professional education component. This student may need more content than professional education. In this program, the student may, with the concurrence of his or her advisor, enroll in exactly that ratio of content courses to professional education courses that is necessary to attain his or her goals.
2. The student who holds a teaching certificate in a field other than physics but is a secondary school physics teacher. These students often require formal course work in a number of areas of physics in order to have physics added to their certificates. This is normally a requirement of their school district and or the commonwealth. This program allows students to meet this requirement while working toward a degree.
3. The student who wishes to enroll in a cooperative program, including those programs with internship components. Students may earn eight to 15 semester hours during a semester while interning under one of the special programs instituted by the university.

I. Subject Matter **15 cr. minimum**
Required course work in Physics is to be selected from the graduate physics courses with course numbers of 510 or greater. This selection must have the *prior* approval of the student's academic advisor, and a notation of such approval is to appear in the student's folder.

II. Electives **11 to 18 cr.**
The student may complete the requirements for an M.A. by selecting, with the approval of his or her advisor, from among the offerings of the School of Graduate Studies and Research. The number of credits selected for electives depends upon the option exercised under Research and Thesis.

III. Research and Thesis Option

Each Master of Arts student must complete degree requirements in one of the following two ways:

- A. Undertake an individual research problem and complete an acceptable thesis. For this option, the student must schedule PHYS 600 for two semester hours and PHYS 850 for at least two semester hours. If the student selects this option, he or she will have completed a minimum of 30 semester hours, including these two courses, for the degree.

- B. Decide, with the approval of his or her academic advisor, that a research problem is not to be undertaken. If this option is exercised, the student will not do a thesis but must complete a minimum of 33 semester hours of course work.

Master of Science in Physics

I. Admission Requirements

Applicants must have a B.S. or B.A. degree with a major in Physics and meet the requirements of the School of Graduate Studies and Research and the Department of Physics. Applicants having other degrees that provide sufficient preparation in physics and mathematics will also be considered for admission.

II. Subject Matter Concentration

A minimum of six courses to be selected with the approval of the advisor from the following: PHYS 536, PHYS 601-602, PHYS 634, PHYS 641, PHYS 651, PHYS 652, PHYS 661-662.

III. Research Requirement

Each Master of Science student is required to undertake an individual research problem and to complete an acceptable thesis under the supervision of one of the faculty members eligible to teach graduate courses. The student is expected to choose a research advisor by the beginning of the second semester in attendance and to submit a written thesis proposal to his or her Thesis Committee for approval by the end of the second semester. The Thesis Committee will be selected by the student in conjunction with his or her research advisor. The student must schedule PHYS 600 for two semester hours and PHYS 850 for at least two semester hours.

IV. Comprehensive Examination

The student must pass a comprehensive examination.

V. Free Electives

The student may complete the 30-hour requirement by choosing from among the offerings of the School of Graduate Studies and Research, with the advice and approval of the student's graduate advisor.

Department of Psychology

The Psychology Department offers a Doctor of Psychology degree in Clinical Psychology (Psy.D.) that places emphasis upon professional applications of psychology based on a solid grounding in the scientific knowledge base of psychology. The program is designed to meet the academic requirements of licensure and provide the background to immediately assume responsibilities in appropriate professional settings.

The department also offers a program of respecialization in clinical psychology for persons holding a doctoral degree in a nonclinical area of psychology. Psychologists wishing to enter the respecialization program must plan to acquire a broad base of knowledge, skills, and attitudes through an individualized plan of study including course work and practica. This program usually requires two years of campus course work and practica, followed by a year-long internship.

Doctorate in Clinical Psychology

Admission to the Psy.D.

The following criteria are used in the evaluation of application materials: (a) overall grade point average and grades in psychology courses (3.0 minimum in both areas); (b) scores on the Aptitude and Advanced sections of the GRE (average of 500 on all sections); (c) training in research methodology; (d) prior

clinical experience in practicum or employment; (e) the applicant's statement of goals; (f) letters of recommendation; and (g) results of a personal interview.

Breadth of undergraduate training is preferable to narrow specialization. Weaknesses in one area may be offset by strengths in another area, although the Admissions Committee gives preference to applicants with some demonstrated strengths in all areas. Students may be required to make up deficiencies.

The deadline for receipt of all application materials is January 10. The Admissions Committee will then select a pool of qualified applicants who will be invited to the campus for personal interviews. Announcements of final admissions decisions will be made around April 1.

Philosophy

The Psy.D. program follows a practitioner or applied model of training of clinical psychologists. Emphasis is placed on professional applications of psychology to a wide variety of human problems. Students receive extensive supervision in the development of skills in interpersonal relations, psychological assessment, psychotherapy, community outreach, and program evaluation and a solid grounding in the scientific knowledge base of psychology.

Curriculum

The Psy.D. program is typically completed in four calendar years of full-time study plus an additional year of full-time internship. The curriculum requires a minimum of 102-104 semester hours of acceptable graduate credit. Each student must complete requirements for (a) core course work; (b) special proficiency/elective course work requirements; (c) practicum, internship, and professional issues; (d) doctoral project; (e) comprehensive academic and professional examinations; and (f) master's and doctoral candidacy. In addition, a course in History and Systems in Psychology is required for graduation.

A. Core Course Work 57 cr.

The core courses are required of all students. These courses cover several areas of psychology and provide the scientific basis for professional practice.

1. Methods of Behavior Change:

PSYC 630	Methods of Intervention I	3 cr.
PSYC 631	Methods of Intervention II	3 cr.
PSYC 633	Clinical Group Techniques	3 cr.
PSYC 634	Family Therapy	3 cr.

2. Methods of Assessment and Evaluation:

PSYC 641	Psychological Assessment I	3 cr.
PSYC 642	Psychological Assessment II	3 cr.
PSYC 743	Psychological Assessment III	3 cr.

3. Research and Methodology:

PSYC 601	Research Methods in Psychology I	3 cr.
PSYC 603	Evaluation Research	3 cr.
PSYC 704	Clinical Research Methods	3 cr.

4. Individual Differences:

PSYC 635	Advanced Psychopathology	3 cr.
PSYC 636	Personality Theory and Systems of Psychotherapy	3 cr.
PSYC 637	Issues in Developmental Psychology	3 cr.

5. Physiological Bases of Behavior:

PSYC 646	Drugs and Behavior	3 cr.
PSYC 647	Clinical Neuropsychology	3 cr.

6. Cognitive Bases of Behavior:

PSYC 632	Models of Learning	3 cr.
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7. Social Bases of Behavior:

PSYC 638	Racial, Cultural, and Gender Issues in Psychology	3 cr.
PSYC 658	Advanced Social Psychology	3 cr.

8. History of Psychology:

PSYC 610	Historical Trends in Psychology	3 cr.
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B. Elective Course Work/Special Proficiency: three courses

Students select three advanced courses in consultation with an advisor. Special elective packages include Child/Family and Behavioral Medicine.

C. Practicum, Internship, and Professional Issues: 27 cr.

PSYC 770	Professional Issues	3 cr.
PSYC 798	Advanced Psychological Practicum	21 cr.
PSYC 799	Internship	3 cr.

Students will typically register for practicum experience throughout their program with sampling from diverse settings. During the final year, a full-time professional internship emphasizing depth and long-term involvement is required.

D. Doctoral Project: 9 cr.

PSYC 950	Doctoral Project (Dissertation)	9 cr.
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E. Comprehensive Academic and Professional Examinations: 0 cr.

Each year, an evaluation of clinical and professional competence will be made. This evaluation data will be shared with the student as feedback, and a joint effort will be made to remediate any deficiencies.

Students must also pass a preliminary examination and a research proficiency evaluation covering basic knowledge appropriate for a professional psychologist. This examination will cover material related to all of the core course work areas.

The Clinical Proficiency Evaluation is completed during the final year on campus. Students present assessment and therapy work samples to a committee of faculty members.

Satisfactory performance on both the preliminary examination and the professional evaluations must be achieved before candidacy for the doctorate will be recommended. Serious deficiencies may result in recommendations for remedial work, reexamination, delay of candidacy, or termination from the program.

F. Master's and Doctoral Candidacy

Students will routinely obtain the master's degree en route to the doctorate. Requirements for candidacy for the M.A. degree include the successful completion of 24 credits of approved graduate course work with a grade point average of 3.0 and the recommendation of the Clinical Training Committee based on satisfactory academic and professional evaluations. The fifty-four credits for the M.A. must include nine hours of practicum and 45 hours of the core course work of the Psy.D. degree.

The candidacy for the Psy.D. will be awarded following the completion of all M.A. requirements plus a minimum of an additional nine credits, successful performance on the preliminary examination and research proficiency evaluation, and satisfactory annual academic and professional evaluations. A grade point average of 3.0 is required for candidacy.

G. Transfer of Graduate Credit

Applicants who have completed course work at other institutions may request transfer of credit. A maximum of 36 semester hours of credit may be approved. A portion, but not all, of the practicum requirements may be transferred for equivalent supervised experience.

H. Part-time Study and Residency

Students must complete two consecutive semesters or one summer plus the preceding or following semester of full-time study to meet residency requirements. At other times, students may complete part-time studies. All students complete a Plan of Study, which will

include a detailed semester-by-semester outline of proposed course work and completion dates for exams, doctoral project, and internship. An average of 15 semester hours must be completed each year, and all requirements must be completed within seven years.

Other Policies

The Psychology Department has established guidelines for the registration and completion of the doctoral project, academic good standing, full-time student status, an appeals process, and other academic matters. These guidelines are explained in the *Psychology Graduate Student Handbook*.

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Professional Growth

The Professional Growth program leading to an M.A., M.S., or M.Ed. is a highly restricted and specially structured course of studies determined by the student and his/her advisory committee. The program may not duplicate or even resemble an existing graduate degree program at IUP. For each degree area, the total credit-hour requirement is the same: 30 credit hours. Students electing to pursue an M.Ed. degree in Professional Growth should receive additional advice from the College of Education and Educational Technology. The requirements for all

M.Ed. degrees have a certain core that must be fulfilled. A four-semester-hour committee thesis is required, as well as GSR 615, Elements of Research. An administrative member from the School of Graduate Studies and Research is a mandatory thesis committee member, in addition to at least two members of the faculty from related academic disciplines. Applicants to this program must have an approved program of study prior to admission. For further information, write to the Advisor, Professional Growth Degree Program, The School of Graduate Studies and Research, 210 South Tenth Street, IUP, Indiana, PA 15705.

Course Descriptions

ACCT: Accounting

Department of Accounting
Eberly College of Business and Information Technology

ACCT 501 Advanced Accounting 3 cr.
Study of business combinations and consolidations as well as accounting problems of specialized nature such as goods on consignment, installment sales, receivership accounts, agency and branch accounting. **Prerequisite:** ACCT 302 or equivalent (9 cr. of Accounting).

ACCT 502 Foundations of Financial Accounting 3 cr.
A basic course for graduate students encompassing the concepts of accounting fundamentals, external reporting and the interpretation of accounting principles, and external reporting and the interpretation of accounting information for financial decision making in domestic and international corporations.

ACCT 512 Advanced Cost Accounting 3 cr.
Theory, preparation and use of budgets, analysis of cost variances, direct costing, and extensive analysis of various cost control and profit planning programs. **Prerequisite:** ACCT 311.

ACCT 531 Auditing 3 s.h.
A study of auditing theory and practical application of auditing standards and procedures to the verification of accounts and financial statements, working papers, and audit reports. **Prerequisite:** ACCT 302.

ACCT 581 Special Topics in Accounting 3 cr.
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary depending on specific topics. May be repeated by specific approval. **Prerequisite:** Permission of the instructor and Eberly College of Business and Information Technology graduate coordinator.

ACCT 607 Management Accounting 3 cr.
Designed for management personnel who are not accountants but who need to understand the accounting process and the use of accounting information by management in making decisions and in performance evaluation. **Prerequisite:** ACCT 202. Not open for credit for students with constructive credit for ACCT 311.

ACCT 608 Seminar in Accounting Issues 3 cr.
Designed to offer students the opportunity to explore the conceptual framework for accounting and reporting and to study, research, and debate various controversial issues of current interest to the accounting profession as well as any other accounting area of mutual interest to them and their instructor. The theme of the seminar will be different every time it is offered. **Prerequisite:** ACCT 302 or instructor's permission.

ACCT 610 Accounting Systems 3 cr.
Accounting principles applied to constructing accounting systems. Special attention is given to problems of management as they relate to accounting systems by developing a system to give management the information desired for effective operation of business. **Prerequisite:** ACCT 301.

ACCT 612 Advanced Tax Accounting 3 cr.
Develops further knowledge of federal income tax laws as they apply to corporations, estates, and trusts. Federal estate tax and gift tax are also explored. **Prerequisite:** ACCT 421.

ACCT 613 Financial Statement Analysis 3 cr.
Detailed analysis and interpretation of financial statements using the various purposes and coverage of the accounting principles underlying the data to be analyzed. **Prerequisite:** ACCT 202.

ACCT 681 Special Topics in Accounting 3 cr.
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary depending upon the interests of instructor and students with instructor choosing specific topics. May be repeated by specific approval. **Prerequisite:** Permission of the instructor and the Eberly College of Business and Information Technology graduate coordinator.

ACCT 699 Independent Study in Accounting 1-3 cr.
Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of a senior faculty member. **Prerequisite:** Consent of instructor, departmental chairperson, and dean, Eberly College of Business and Information Technology.

ACCT 850 Thesis 4-6 cr.
For students writing the thesis, ACCT 850 should be scheduled for the semester in which they plan to complete their work. The thesis is a committee thesis (4-6 cr.) for which the student's advisor, two additional faculty members, the Eberly College of Business and Information Technology graduate coordinator, and/or the representative of the dean, Eberly College of Business and Information Technology, may constitute the committee.

ACE: Adult and Community Education

Department of Adult and Community Education
College of Education and Educational Technology

ACE 590 Improving Professional Practice in Instructional Settings: 1-3 cr. and

ACE 591 Improving Professional Practice in Instructional Settings: 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. The course may focus on any of these aspects of teaching, learning, or professional practice. In addition, the course may be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. This course is offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

ACE 620 Introduction to Adult and Community Education 3 cr.
A survey course which examines the fields of adult and community education philosophically and historically and in terms of current programs and processes. The course includes the study of adult and community education principles and concepts as well as available literature and resources.

- ACE 621 The Adult Learner** 3 cr.
This course focuses on the adult as learner, including physiological, psychological, and sociological characteristics and their effect on learning.
- ACE 622 Program and Process Development in Adult and Community Education** 3 cr.
A knowledge and skill-building course designed for present and future adult and community education practitioners. This how-to course examines concepts and practices relevant to the development of educational programs in traditional and nontraditional educational settings.
- ACE 623 Organization and Administration in Adult and Community Education** 3 cr.
This course introduces the student to basic theories of leadership management and organizational structure. It includes study and application of the tasks, tools, strategies, and leadership roles of adult and community education administrators. **Prerequisite:** Permission.
- ACE 625 Facilitating Adult Learning** 3 cr.
This course examines teaching and learning theories as they relate to adults: the teaching-learning process in a variety of educational settings; instructional methods, techniques and devices which are effective with adults; and instructional designs and evaluative methods effective in the teaching-learning process. **Prerequisite:** Permission.
- ACE 650 Current Topics in Adult and Community Education** 3 cr.
Explores current issues, trends, and topics in depth in a workshop format. Topics will be selected by the faculty and announced in advance of the semester in which the course is to be offered. Topics may include issues in continuing higher education, volunteerism, adult career development, managing nonprofit organizations, group processes in adult education, and current issues in research. **Prerequisite:** Permission of the instructor.
- ACE 699 Independent Study in Adult and Community Education** 1-3 cr.
Independent study of a topic pertinent to an individual's program of study. Permission of advisor and department chairperson required.
- ACE 735 Seminar in Adult and Community Education** 3 cr.
This course involves an intensive study of special topics in adult and community education with a research emphasis. Research content varies according to student interest. **Prerequisite:** Permission.
- ACE 740 Internship in Adult and Community Education** 6 cr.
This is an individually designed field project in which students work with a site project advisor and a university advisor. The six-credit internship is a single project designed in two phases, each earning three credits. **Prerequisite:** Permission.
- ACE 745 Practical Research in Adult and Community Education** 3 cr.
Practical research in adult and community education is designed to have students conduct and report a formal research study in their field of interest. Students formulate a research problem and design a plan of inquiry that will provide an answer(s) to their stated research problem. Students must be able to interpret their research findings and communicate them both orally and in writing at a professional level. **Prerequisite:** Permission.
- ACE 750 Seminar: Technology and Adult Learning** 3 cr.
This course, by providing an advanced forum in which to research, discuss, and document current and emerging topics, issues, and applications in technology and adult learning (with special emphasis on distance learning), serves to synthesize these two fields of inquiry and offers students the opportunity to conceptualize and develop models and strategies for the integrated application of theory and practice learned in earlier courses. Literature reviews, topic analyses, and case studies are used to enhance awareness of critical issues and potential application in real-life settings. **Prerequisites:** At least twelve completed credits, six each in ACE and COMM courses, and advisor approval.
- ACE 850 Thesis** 3 cr.
Students selecting the thesis option will complete a thesis project with a committee consisting of at least three faculty members.

ALS: Administration and Leadership

Department of Professional Studies in Education
College of Education and Educational Technology

- ALS 590 Improving Professional Practice in Instructional Settings:** 1-3 cr. and
ALS 591 Improving Professional Practice in Instructional Settings: 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. The course may focus on any of these aspects of teaching, learning, or professional practice. In addition, the course may be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. This course is offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.
- ALS 701 Leadership Theories** 3 cr.
Focuses on several leadership theories related to administering social agencies, schools, business, and industry.
- ALS 702 Leadership: A Case Study Approach** 3 cr.
Acquaints students with the theory and application of the case study approach as related to theories of leadership. Designed to provide practice for future administrators in the following areas: group decision making, leadership, planning and organizing, sensitivity, judgment, and communication skills. **Prerequisites:** For approved Administration and Leadership Studies candidates; in addition, ALS 601 or permission of the instructor.
- ALS 703 Leadership: Applied Practice** 3 cr.
Students must develop and implement a field project that incorporates leadership and policy theories learned in previous courses. **Prerequisites:** For approved Administration and Leadership Studies candidates; in addition, ALS 601 and ALS 702 or permission of the instructor.
- ALS 782 Research Instrument Design for Leadership Studies** 3 cr.
Designed to prepare doctoral students in leadership studies to critique and develop research instruments for use in dissertation research. It will emphasize identifying the key issues associated with instrument design in leadership studies, critiquing the published instruments, writing instrument items, and conducting instrument reliability and validity analysis. Students will learn to evaluate and develop instruments through hands-on activities and individual projects. **Prerequisite:** By permission.
- ALS 783 Analysis of Qualitative Data in Leadership Studies** 3 cr.
Designed to prepare doctoral students in leadership studies to conduct qualitative data analysis in dissertation research. Emphasizes identification of key issues associated with qualitative research, critique of the published qualitative research, transcription of qualitative data, interpretation and presentation of patterns, and use of computers to perform data analysis. Students will learn to analyze, present, and write qualitative research reports. **Prerequisite:** By permission.
- ALS 798 Internship in Administration and Leadership Studies** 3-6 cr.
A planned, field-based work experience proposed by the advanced graduate student to enhance professional competence, subject to approval by student's advisor and program director. **Prerequisite:** For approved Administration and Leadership Studies candidates or permission of the instructor.
- ALS 950 Dissertation** 9 cr.

ANTH: Anthropology

Department of Anthropology
College of Humanities and Social Sciences

- ANTH 514 Native Americans** 3 cr.
Survey of culture history and culture area characteristics of the Indians of North America. Detailed study of representative groups related to historical, functional, and ecological concepts.
- ANTH 520 Archaeological Field School** 6 cr.
Introduction to archaeological survey, field excavation, and laboratory processing. Field school students participate in one or more of the ongoing research projects of the IUP Archaeology Program.

ANTH 556 Ethnographic Research Methods 3 cr.
Examination of methods and practice of qualitative and quantitative research. Course emphasizes techniques for conducting ethnographic research, participant observation, ethical issues in social research, and the development of professionalism.

ANTH 581 Special Topics 3 cr.

ANTH 694 Anthropology Seminar 3 cr.
Considers conceptual problems and definitions in anthropology. Formulations of a variety of research problems central in anthropology emphasized.

ANTH 699 Independent Study

APMU: Applied Music

Department of Music
College of Fine Arts

Applied Music (APMU 601-771) 1-4 cr.
The following courses will be taught in form of private lessons geared to individual student and aiming at maximum progress of each student, depending on background of the student and time available. The student should for any series of lessons use the first number in programming for the first time, the second number for the second time, etc.

APMU 601, 651, 701, 751	Private Piano
APMU 602, 652, 702, 752	Private Organ
APMU 603, 653, 703, 753	Private Harpsichord
APMU 605, 655, 705, 755	Private Voice
APMU 606, 656, 706, 756	Private Violin
APMU 607, 657, 707, 757	Private Viola
APMU 608, 658, 708, 758	Private Cello
APMU 609, 659, 709, 759	Private Bass Viol
APMU 610, 660, 710, 760	Private Flute
APMU 612, 662, 712, 762	Private Oboe
APMU 613, 663, 713, 763	Private Bassoon
APMU 614, 664, 714, 764	Private Saxophone
APMU 615, 665, 715, 765	Private Trumpet
APMU 616, 666, 716, 766	Private French Horn
APMU 617, 667, 717, 767	Private Trombone
APMU 618, 668, 718, 768	Private Euphonium
APMU 619, 669, 719, 769	Private Tuba
APMU 620, 670, 720, 770	Private Percussion
APMU 621, 671, 721, 771	Private Guitar

ARED: Art Education

Department of Art
College of Fine Arts

ARED 610 Art and the Exceptional Child 3 cr.
Designed to consider characteristics and needs of the mentally retarded and the intellectually gifted child with particular emphasis on art aspects of the child's education.

ARED 611 Art Curriculum Development in Art Education 3 cr.
A seminar and study of curriculums at all levels. Particular attention given to individual needs of class participants in development of curriculums pertinent to their own teaching situations. For those students who have not yet taught, theoretical and practical problems will be examined.

ARED 612 Supervision and Administration in Art Education 3 cr.
Responsibilities, functions, and duties of art supervisors and administrators.

ARED 613 Research in Art Education 3 cr.
Required of all Art Education majors. Reviews past and present research focusing upon the methodologies pertinent to the field. Prerequisite for this course, GSR 615, is to be scheduled within the first four to eight semester hours. ARED 613 must be taken as soon thereafter as possible but within the first twelve semester hours.

ARED 614 History and Philosophy of Art Education 3 cr.
Considers art education in Europe, the United States, and Canada. Designed to give the student background.

ARHI: Art History

Department of Art
College of Fine Arts

ARHI 507 Medieval Art 3 cr.
Art and architecture of Europe during Middle Ages, beginning with the study of Early Christian and Byzantine Art and concluding with art of the Romanesque and Gothic periods. **Prerequisite:** Art History majors or by special arrangement.

ARHI 508 Italian Renaissance Art 3 cr.
Art History majors, by special arrangement. Covers span of Italian art from 1400s through 1850 and Mannerist movement. Special attention paid to great masters of the period.

ARHI 509 Baroque and Rococo Art 3 cr.
General survey of art from 1575 to 1775. Will include architecture, sculpture, painting, and other arts.

ARHI 682 Graduate Seminar in Art History 3 cr.
Considers current topics and various periods of art addressed in recent literature. These may deal with new discoveries of newly published works, methodological approaches, ideological issues, and controversies in the field. The concentration will vary and will concentrate on one area for the entire semester, i.e., Asian Art or Medieval Art. Students will be required to research an issue and present their results in written form, as well as in an informal class lecture. **Prerequisites:** Graduate Standing and/or advanced art history major (undergraduate by permission of instructor).

ARHI 683 Graduate Seminar in Theory and Criticism 3 cr.
Introduces students to some of the most important theories shaping the world of visual art today. The course will not only contextualize these theories historically and culturally but also offer various opportunities of applying them.

ART: Art

Department of Art
College of Fine Arts

ART 557 Graduate Studio in Print Media 3-18 cr.
Exploration of print media from a conceptual and technical perspective, including traditional and nontraditional approaches. The student may concentrate on intensive exploration of one medium in depth or explore a number of media for breadth of experience. This course is designed for both beginning and advanced students. **Prerequisite:** graduate art student standing.

ART 559 Graduate Studio in Fibers 3-18 cr.
Fundamentals of fiber construction and processes. Emphasis on experimental approaches to fiber design and construction. Designed to meet the needs of beginning as well as advanced students.

ART 560 Graduate Studio in Jewelry and Metal Work 3-18 cr.
Advanced study dealing with specialized problems in design and execution of metal work and jewelry. A thesis may be developed depending on research in one of the areas relating to this field: history, materials, tools, processes, or teaching techniques of the craft.

ART 572 Graduate Studio in Ceramics 3-18 cr.
All aspects of handforming, decorating, glazing, and firing will be dealt with. This may include body and glaze formulation and reduction, oxidation, salt, wood, and raku firing, as well as thrown, coiled, or slab construction or combinations thereof. Includes historic and contemporary ceramics and philosophies of the craft. **Prerequisite:** At least one year of undergraduate ceramics.

ART 573 Graduate Studio in Sculpture 3-18 cr.
An advanced course in which students are expected to work on challenging problems in sculpture. A student may explore one or several sculpture or modeling media.

ART 574 Graduate Studio in Oil Painting 3-18 cr.
Traditional and contemporary methods and techniques in the area of plastic painting media. Composition in relation to modern painters' problems. Opportunity is presented for exploration and specialization in depth as well as breadth.

ART 575 Graduate Studio in Drawing 3-18 cr.
Drawing as a language and continued development of skill in communication and expression in all kinds of materials and media. Drawing as an intimate work of the artist will be expressed.

COURSE DESCRIPTIONS

ART 576 Graduate Studio in Woodworking 3-18 cr.
Specialized study and experiences in the design and execution of problems relating to wood as a crafts material. Opportunity is presented to more intensively explore materials and processes of this craft employing both hand and power tools.

ART 581 Special Topics 3 cr.

ART 615 Art Seminar 3 cr.
Opportunities for students to conduct in-depth explorations of contemporary trends/issues in Studio Art and to develop proficiency in the area of art criticism. Course content and methods will include writing, verbalization, group discussion, attendance at regional exhibitions, and development of thesis exhibition proposals. For M.A. candidates only.

ART 680 Graduate Studio Critique 3 cr.
A multidisciplinary course for studio majors seeking the M.A. and M.F.A. degrees. Selected studio faculty and all graduate students will meet weekly to critique work and projects in progress. Enables students with techniques for leading and participating in the group critique process as a vehicle for growth and understanding. **Prerequisite:** Graduate student standing

ART 681 Special Topics 3 cr.

ART 698 Internship 3 cr.

ART 699 Independent Study 3 cr.

ART 850 Thesis 3 cr.

Studio courses may be taken for a total of 18 semester hours in one studio. No more than six semester hours in one studio may be taken during one semester.

BIOL: Biology

Department of Biology
College of Natural Sciences and Mathematics

BIOL 520 Biology of Higher Invertebrates 3 cr.
A phylogenetic overview of the higher invertebrates. Annelida through lower Chordata. A systematic approach on functional morphology and microstructure, behavior, and physiology under an evolutionary umbrella. Laboratory sessions offer additional research opportunities. **Prerequisite:** BIOL 120.

BIOL 525 Herpetology 3 cr.
A comprehensive survey of the classes of Amphibia and Reptilia, including their classification, structure, origin, evolution, phylogenetic relationships, distribution, and natural history. Special emphasis is placed on the herpetofauna of Pennsylvania.

BIOL 550 Pymatuning: Field Studies 3 cr.
During the summer session, various field courses are offered through the Pymatuning Laboratory of Ecology. The offerings will vary depending on the summer. Some of the possible offerings include Experimental Design, Fish Ecology, Behavioral Ecology, Aquatic Botany, and Ecological Genetics. Information regarding specific offerings is available from the Biology Department in spring.

BIOL 563 Limnology 3 cr.
An investigation into the physical, chemical, and biological aspects of inland waters and their interrelationships. Saturday or Sunday labs may be required. **Prerequisite:** Ecology.

BIOL 564 Immunology 3 cr.
Study of anatomy and function of immune system, physical and chemical properties of antigens and antibodies, nature of antigen-antibody interactions, humoral and cell-mediated immune responses, and immunopathology. **Prerequisites:** Biochemistry and Microbiology.

BIOL 566 Principles of Virology 3 cr.
Topics include structure, classification, assay, and transmission of animal, bacterial, and plant viruses; methods used in the study of viruses; viral replication, gene expression, and gene regulation; host-viral interactions and sub-viral pathogens.

BIOL 571 Dendrology of the Eastern U.S. 3 cr.
A field course that examines the taxonomy, morphology, and ecology of the tree species in the eastern portion of North America. The forests of Pennsylvania will be emphasized in the course.

BIOL 575 Mammalogy 3 cr.
General discussion of mammals, emphasizing systematics, distribution, and structure-function modifications related to their evolution. A paper is required.

BIOL 576 Parasitology 3 cr.
The parasitic protozoa, flatworms and roundworms. Major emphasis is on species infesting man and includes their structure, physiology, ecology, life cycles, and pathogenicity. Arthropods involved in parasite transmission included. **Prerequisites:** One year Biology, Vertebrate and Invertebrate Zoology.

BIOL 602 Biometry 3 cr.
The choice and application of standard, efficient, practical, and appropriate statistical techniques for data analyses in common biological situations. Computer instruction will emphasize the practical application of statistical techniques using statistical packages on microcomputers and the IUP mainframe computer. Lecture and computer instruction will be combined in four class hours per week.

BIOL 603 Advanced Techniques in Biology 1-3 cr.
Introduction to advanced techniques and procedures used in biological research. Topics vary. **Prerequisite:** Permission.

BIOL 611 Biology Seminar I 1 cr.
Develops essential skills for the professional biologist, including public presentation of biological information and the ability to critique biological data and ideas.

BIOL 612 Biology Seminar II 1 cr.
Develops essential skills for the professional biologist, including writing of research proposals and presentation of seminars. **Prerequisite:** BIOL 611.

BIOL 622 Advanced Ornithology 3 cr.
A detailed study of bird populations, behavior, and movement, including the annual cycle. **Prerequisite:** Ability to identify local birds visually and by their songs.

BIOL 623 Animal Morphogenesis 3 cr.
Factors that influence and control the differentiation of organs, tissues, and cells. Emphasis placed on experimental procedures and methods. **Prerequisites:** Embryology or Comparative Anatomy, Organic Chemistry, and Genetics.

BIOL 624 Advanced Entomology 3 cr.
Insect morphology, including external and internal organization of different species of insects. Comparisons between species included. An independent research study and seminar presentation required.

BIOL 631 Plant Ecology 3 cr.
Nature and distribution of vegetation in relation to environmental factors. Field investigations of local plant communities constitute bulk of lab work. **Prerequisites:** Field Botany, Plant Taxonomy, or general knowledge of local flora.

BIOL 641 Population and Community Ecology 3 cr.
The ecology of animal and plant populations, including the study of life tables and demography, population growth and regulation, and the evolution of life history traits. Community ecology considers the interactions among populations such as competition, predation, and mutualism and how such interactions control the composition of a community. **Prerequisite:** Introductory course in ecology or permission of instructor.

BIOL 645 Behavioral Ecology 3 cr.
A consideration of the behavioral activities of animals in their natural habitats. Evolutionary and ecological implications of behavior will be stressed. Topics include natural history strategies, resource partitioning, reproduction strategies, sexual selection, cooperation, conflict, and social organization.

BIOL 650 Plant Systematics 3 cr.
Introduces students to history, theory, literature, sources, and interpretation of plant systematic data and to methods of plant collection and identification.

BIOL 651 Physiological Ecology of Animals 3 cr.
A consideration of physiological responses of animals to environmental variables with emphasis on the evolutionary aspects of the response. The physiology of invertebrates and vertebrates in aquatic and terrestrial environments will be considered. **Prerequisite:** A course in physiology or permission of the instructor.

BIOL 653 Animal Physiology 4 cr.
Digestion and molecular transport of nutrients, gaseous exchanges, excretion, muscular activity and control, and endocrine and neural elements. **Prerequisite:** Animal Biology.

BIOL 662 Molecular Genetics of Eukaryotes 3 cr.
Study of organization and chemical structure of genes in relation to molecular function and evolution. Emphasis will be placed on the genetic systems of eukaryotes and their viruses. **Prerequisites:** Genetics, Organic Chemistry, and Biochemistry or permission of the instructor.

BIOL 681 Special Topics 1-3 cr.
Advanced topics in biology. **Prerequisite:** Permission of instructor.

BIOL 699 Independent Studies 1-3 cr.
Individual or small group instruction, by tutorial and intensive literature survey, in a particular area not covered by a student's course work or thesis research. By arrangement with instructor and approval of graduate director. Maximum of six hours to be used toward the degree.

BIOL 850 Thesis 2-6 cr.

NOTE: Summer courses offered at the Pymatuning Laboratory of Ecology may be taken for biology elective credit.

BLAW: Business Law

Department of Finance and Legal Studies
Eberly College of Business and Information Technology

BLAW 581 Special Topics in Business Law 3 cr.
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary, depending upon the interests of instructor and students, with instructor choosing specific topics. May be repeated by specific approval. **Prerequisite:** Permission of the instructor and the Eberly College of Business and Information Technology graduate coordinator.

BLAW 633 Case Problems in Business Law 3 cr.
Deals with solution of case problems as applied to various topics in the field of business law. **Prerequisite:** BLAW 235 or equivalent.

BTED: Business Technology Education

Department of Technology Support and Training
Eberly College of Business and Information Technology

BTED 600 Curriculum Development and Vocational Education 3 cr.
Emphasis is on processes for making curriculum decisions and guiding others in developing and updating curriculum for vocational education. Current occupational standards and societal needs, as well as state and federal regulations governing vocational education, are used as a basis for curriculum decisions.

BTED 601 Curriculum and Instructional Leadership in Vocational Education 3 cr.
Curriculum management skills are developed and utilized to plan and organize vocational curriculum. Focus is on practical curriculum decisions when they involve guiding other staff in curriculum development for vocational education.

BTED 602 Conference Leadership and Communication Methods in Vocational Education 3 cr.
Basic concepts in supervision of vocational programs are reviewed. Human relations, communications, processes, decision making, helping conferences, and leadership strategies are emphasized. Students demonstrate ability to perform supervisory skills in an individualized manner in an actual vocational school situation supplemented by seminars.

BTED 603 Management of Instruction for Vocational Education 3 cr.
Classroom instructional tasks performed by the vocational educator are studied, including procedures, materials, and learning and instructional styles. Emphasis is on leadership strategies and processes to guide and assist other vocational instructors. Skills are developed in an individualized, self-paced manner in an actual vocational school situation supplemented by seminars.

BTED 604 Curriculum Supervision in Vocational Education 3 cr.
Emphasizes skills needed to provide leadership in supervision of faculty and staff. In consultation with his or her advisor, each student will identify those areas that need enhancement in vocational settings. Skills are developed in an individualized, self-paced manner in an actual vocational school situation supplemented by seminars.

BTED 605 Policy Administration 3 cr.
Develops skills to communicate vocational school policies and activities effectively with staff, students, and community. Includes study of student recruitment for vocational programs and maintenance/expansion/utilization of school facilities. In

consultation with his or her advisor, each student will identify those areas that need further refinement. The student will develop and perform each requisite skill in an individualized, self-paced manner in an actual vocational school situation supplemented by seminars.

BTED 676 Special Studies in Business and Distributive Education 1-6 cr.
Special topics in business and distributive education. Topics will be announced well in advance of registration.

BTED 681 Special Topics 3 cr.

BTED 693 Seminar in Teaching Business Subjects 3 cr.
Includes instruction in the methods of teaching and evaluating both the technology-oriented and cognitive-related courses in business education. Emphasis is placed on planning instruction, developing methods and strategies for making effective classroom presentations, delivering instruction, and managing the classroom. Opportunities will be provided to undertake the responsibilities assigned to the business classroom teacher, assume the teaching role competencies, and research current trends in the field.

BTED 694 Clinical Studies in Business Education 3 cr.
Examines the historical and philosophical perspectives of business and technology education. Includes observations of classes at the secondary, community college, and industry training levels. Interviews of staff in educational settings will be included to provide in-depth information on trends in business and technology education.

BTED 695 Professional Seminar 3 cr.
Provides experience in teaching at the secondary level in a business education program and coordination and visitation by a university faculty member with supervision by a cooperating teacher. Efforts are made to provide opportunities to work with students who have special needs and/or who come from diverse cultural backgrounds. Students enrolling in BTED 695 must meet all requirements for admission to Teacher Certification.

BTED 699 Independent Study in Business Education 1-3 cr.
Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of a senior faculty member. **Prerequisite:** Consent of instructor, departmental chairperson, and Eberly College of Business and Information Technology dean.

BTST: Business Technology Support and Training

Department of Technology Support and Training
Eberly College of Business and Information Technology

BTST 614 Instructional Computing Basics 3 cr.
Introduces students to the practical use of the computer as a tool for enhancing effectiveness and efficiency in teaching/learning and training and development. Learners will explore the use of the computer in school and nonschool teaching or training and development settings, conduct critical evaluation of computer-based instructional/training materials, and develop strategies for integrating computing into the total teaching/training and development environment. Current research in the area of instructional computing and its practical implications for teaching and training and development will also be discussed.

BTST 631 Interactive Multimedia 3 cr.
This course provides an introduction to designing and producing computer-generated multimedia presentations and courseware for industry and education. **Prerequisite:** BTED 614 or permission of the instructor.

BTST 642 Training and Development in Business/Workforce Development 3 cr.
Office systems occupations are analyzed and teaching strategies are developed for training in high-technology settings. Development of unit plans, lesson plans, and classroom management strategies will be included on topics such as computer literacy, desktop publishing, and telecommunications.

BTST 650 Issues and Trends in Business/Workforce Development 3 cr.
Utilizing state-of-the-art technology, explore current issues and trends in business and technology education. Topics include the integration of technology in the classroom and trends in educational initiatives. Participants will have an opportunity to use the Internet as a research tool, a high-tech workstation, and the latest presentation software.

BTST 656 Applied Research in Business/Workforce Development 3 cr.
An examination of methods and techniques of research in office systems and business education. Students will select a research topic and conduct an actual study on an individual basis or as part of a small group. A formal research report will be an end product of the course. **Prerequisite:** GSR 615

COURSE DESCRIPTIONS

BTST 670 Administrative Communications 3 cr.
An examination of the concepts and techniques for developing and improving administrative communications through high technology. Emphasis will be on the current needs and changing technology in software, hardware, and telecommunications.

BTST 680 Technical Update 1-3 cr.
Designed to provide students with up-to-date experiences in areas of rapidly changing technology. Offerings will focus on topics of particular interest to business teachers in high-technology settings.

BTST 681 Special Topics 3 cr.

CDFR: Child Development and Family Relations

Department of Human Development and Environmental Studies
College of Health and Human Services

CDFR 517 Infant Development 3 cr.
Study of characteristic developmental changes of human infants from birth to approximately two and one-half years.

CDFR 526 Techniques of Parent Education 3 cr.
Focuses on scope and aims of parent education movement. Methods of helping families become more effective in their parent-child relationships are examined.

CDFR 527 Administration of Child Development Centers 3 cr.
Development of competencies needed to administer child care programs. Focuses on program philosophy, curriculum materials, parent and community involvement, staff selection and training, admissions and grouping, proposal writing, budgeting and finance, government regulations, reporting, and recordkeeping.

CHEM: Chemistry

Department of Chemistry
College of Natural Sciences and Mathematics

CHEM 500 Special Studies 1-6 cr.
Intensive survey of literature in a particular area as well as individual instruction on recent advances in chemical instrumentation, methods of research, and specialized subject areas. To be arranged with instructor.

CHEM 521 Advanced Instrumental Methods of Analysis 3 cr.
Modern instrumental analysis, including electrical, spectrophotometric, x-rays, gas chromatography, and other methods. (Open to M.S. and M.A. candidates by permission only.) Four-hour lecture laboratory.

CHEM 531 Organic Molecular Structure Determination 3 cr.
Gives student experience in systematic identification of various classes of organic compounds by both chemical and physical methods. Four-hour lecture laboratory.

CHEM 535 Current Topics in Organic Chemistry 3 cr.
With selections to meet the needs of the students, possible topics may include reaction mechanisms, molecular spectroscopy, stereochemistry, natural products, heterocycles, polymer chemistry, and organic synthesis.

CHEM 540 Physical Chemistry (core course) 3 cr.
An introduction to spectroscopy and molecular structure. Lecture—3 hours.

CHEM 600 Seminar 1 cr.
A study of modern chemical research and research techniques. Scientific communication, including the role of the science laboratory in research. The student will present one oral report. Lecture—one hour.

CHEM 610 Inorganic Chemistry (core course) 3 cr.
Theoretical inorganic chemistry and, in particular, structure, periodicity, coordination chemistry, bonding, and chemistry of nonaqueous solvents. Lecture—three hours.

CHEM 620 Analytical Chemistry (core course) 3 cr.
Theoretical principles of analytical chemistry. Lecture—three hours.

CHEM 623 Physical and Chemical Methods of Separation 3 cr.
Application of chromatographic methods to the quantitative separation and analysis of chemical systems. Topics will include gas, column, paper and ion exchange chromatographic methods, and other methods of separation as time permits. Lecture—2 hours; laboratory—4 hours.

CHEM 630 Organic Chemistry (core course) 3 cr.
Principles of physical chemistry will be applied to the study of organic reaction mechanisms. Lecture—three hours.

CHEM 633 Chemical Literature 3 cr.
Periodicals, encyclopedias, handbooks, abstracting journals, and other sources dealing with various divisions of chemistry will be studied. Students are required to conduct a literature search on a selected topic. Lecture—three hours.

CHEM 646 Biochemistry 3 cr.
Topics covering and emphasizing most recent developments in the areas of biochemistry, such as amino acids, carbohydrates, lipids, nucleic acids, proteins, enzymes, metabolism, and metabolic control. Lecture—three hours.

CHEM 681 Special Topics 3 cr.

CHEM 690 Research 1-6 cr.
Laboratory and literature investigation of student's thesis problem done under the direction of a faculty member. Within the first 15 hours of course work, the student must schedule at least one credit of research for which the student performs the literature review and writes a research proposal.

CHEM 699 Independent Study 1-6 cr.
Available to students who seek to deepen their knowledge in some specific aspect of chemistry. The student must discuss the nature of the independent study with a faculty member having expertise in the area prior to registration. Special attention to development of new ideas and new ways of presenting scientific principles.

CHEM 850 Thesis 4 cr.
For students writing the thesis. Should be scheduled for the semester in which the student plans to complete work. A committee thesis (four semester hours), for which the student's advisor, two additional faculty members, and the dean of the College of Natural Sciences and Mathematics constitute the committee.

COMM: Communications Media

Department of Communications Media
College of Education and Educational Technology

COMM 503 Scriptwriting 3 cr.
Provides an introduction to scriptwriting for films and filmstrips. Various styles and techniques of writing will be analyzed, and each student will be expected to experiment with the techniques presented. Emphasis on writing and in-class criticism of student script.

COMM 508 Media Field Studies 3 cr.
A hands-on course designed to help students learn about the production process involving on-location production. The course will have three distinct phases. Students will begin with research and pre-production tasks on campus, travel to an off-campus site to collect additional information and images, and use those images to complete a production. Students will be responsible for travel expenses. **Prerequisite:** Permission from the instructor.

COMM 549 Basic Audio Recording 3 cr.
Theory and practices of recording sound and developing an understanding of language of sound recording and the ability to make sound recordings. Exposure to recording for various media, including radio, music, motion pictures, television, multi-image, and slide and tape production. Students will gain hands-on experience through labs and projects to be completed outside class.

COMM 551 Basic TV Production and Direction 3 cr.
Intensive lab course circuit facilities designed to develop skills in program production and direction. Theory and practice of production are examined with each student expected to produce a television program during the course.

COMM 552 Electronic Field Production 3 cr.
For advanced graduate students with prior training and experience in television. Advanced television production techniques, set design, lighting, special effects, and advanced editing techniques. **Prerequisite:** COMM 551.

COMM 571 - Beginning Photography 3 cr.
Emphasis on using still picture camera and the darkroom for instructional purposes, the making of black-and-white negatives, 35mm slides, copy work, developing black-and-white, contact printing, and enlarging. Each student must have manual focusing and manual exposure setting capability. No previous photographic experience is necessary.

COMM 581 Special Topics 3 cr.
Advanced topics, offered on an experimental basis, within the discipline of communications but not dealt with in other courses. **Prerequisite:** Permission of the instructor.

COMM 590 Improving Professional Practice in Instructional Settings: 1-3 cr.
and

COMM 591 Improving Professional Practice in Instructional Settings: 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. The course may focus on any of these aspects of teaching, learning, or professional practice. In addition, the course may be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. This course is offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

COMM 600 Instructional Design and Development 3 cr.
Examines the systems approach for the design, development, and evaluation of instructional material (print, video, multimedia, etc.). Students will learn about the history of instructional technology and its current applications. Each student will produce a self-instructional prototype which will require the student to systematically and creatively apply the concepts and rules learned in the class.

COMM 601 Media Production 3 cr.
Students learn how to systematically plan, produce, use, and evaluate media. Each student will produce different types of messages (motivational, informational, and instructional) using a variety of media.

COMM 614 Instructional Computing Basics 3 cr.
Introduces students to the practical use of the computer as a tool for enhancing effectiveness and efficiency in teaching learning and training and development. Learners will explore the use of the computer in school and nonschool teaching or training and development settings, conduct critical evaluation of computer-based instructional training materials, and develop strategies for integrating computing into the total teaching training and development environment. Current research in the area of instructional computing and its practical implications for teaching and training and development will also be discussed.

COMM 631 Interactive Multimedia 3 cr.
Provides an introduction to designing and producing computer-generated multimedia presentations and courseware for industry and education. **Prerequisite:** COMM 614 or permission of the instructor.

COMM 681 Special Topics 3 cr.
Intensive study of a specific area of communications beyond the scope of other courses. Offering depends upon instructor and student interest. **Prerequisite:** Permission of the instructor.

COMM 698 Internship 2-6 cr.
Supervised professional work experience in communications media. Location, duties, length of internship, and hours are individually tailored to student career goals. Sites represent wide application of process and technology of communications in business, education, allied health, or other agencies.

COMM 699 Independent Study 1-3 cr.
The student may elect, with approval of advisor, to do several different independent study projects. University facilities and equipment are provided, but student must supply materials and pay for processing and production costs. **Prerequisites:** Successful completion of the basic course in the medium selected; the professor's approval.

COSC: Computer Science

Department of Computer Science
College of Natural Sciences and Mathematics

COSC 581 Special Topics in Computer Science 3 cr.
Seminar in advanced topics from computer science; content will vary depending on the interests of the instructor and students (consult department for currently planned topics). May be repeated for additional credit. **Prerequisite:** Permission of instructor.

COUN: Counselor Education

Department of Counseling
College of Education and Educational Technology

COUN 590 Improving Professional Practice in Instructional Settings: 1-3 cr.
and

COUN 591 Improving Professional Practice in Instructional Settings: 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. The course may focus on any of these aspects of teaching, learning, or professional practice. In addition, the course may be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. This course is offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

COUN 610 Introduction to Community Counseling 3 cr.
Provides an introduction to the work of the community counselor in a variety of roles in many different settings.

COUN 615 Counseling Across the Life Span 3 cr.
Principles and methods involved in understanding individuals and their developing self-concepts. Examines counseling methods that respond to developmental challenges.

COUN 617 Basic Counseling Skills 3 cr.
Practice in developing effective basic counseling skills, including active listening, attending, building rapport, and demonstrating empathy. Observing, interviewing, and consulting procedures will be developed.

COUN 618 Diversity Issues in Counseling 3 cr.
An overview of diversity issues in the field of counseling. Students will increase their awareness of cultural issues, identity, and personal values, acquire knowledge of diverse groups, and learn culturally appropriate counseling skills. **Prerequisites:** COUN 617 and COUN 610 621.

COUN 621 Introduction to Guidance Services 3 cr.
Overview of genesis and development of guidance in American education, including philosophical concepts, psychological theories, cultural and social influences, and current practices.

COUN 624 Educational Appraisal 3 cr.
Basic statistical and measurement concepts utilized in testing and test interpretations, emphasizing data concerning purposes and types of tests, test administration, scoring, validity and reliability, and principles of test selection for school settings. **Prerequisite:** Students enrolled in M.A. program are restricted from taking this course.

COUN 626 Career Education 3 cr.
Study of how schools facilitate the career development of students using a comprehensive career guidance program. Considers developmentally relevant career strategies such as curriculum, group and individual interventions, decision-making skills, and the processing and use of information. Emphasizes how students acquire self- and vocational knowledge, skills, and abilities which lead to effective career decisions. **Prerequisites:** COUN 617, COUN 624.

COUN 627 Child Counseling Theory 3 cr.
Theories, objectives, principles, and practices of counseling and consulting are covered. Emphasis is placed on techniques and practices related to children. **Prerequisites:** COUN 617, COUN 610 621.

COUN 628 Management of the Guidance Services 3 cr.
Helps the school counselor acquire necessary competencies to manage guidance services. Emphasis placed upon planning, organizing, actuating, and controlling functions of management as applied to the guidance services. **Prerequisites:** COUN 621, COUN 624.

COUN 629 Group Procedures (Child) 3 cr.
Emphasis is placed upon understanding and developing group techniques related to the development and growth of children. Group counseling with children is covered. **Prerequisites:** COUN 617, COUN 627.

COUN 634 Mental Health Appraisal 3 cr.
Provides an overview in fundamental knowledge of assessment principles, application, and instruments to assist the community counseling student in becoming psychometrically literate. Statistical concepts, standard scores, reliability, validity, and types of techniques and assessments commonly used in mental health settings will be covered. **Prerequisite:** Students enrolled in M.Ed. program are restricted from taking this course.

COUN 636 Career Counseling and Development (Community) 3 cr.
Emphasizes how individuals acquire self- and vocational knowledge, skills, and abilities, which lead to effective career decisions. Considers adult vocational development, decision-making skills, and the processing and use of information in the community setting. **Prerequisites:** COUN 617, COUN 634.

COUN 637 Counseling Theory 3 cr.
Theories, objectives, principles, and practices of counseling with adolescents and adults are covered. Theory-specific counseling skills are presented and practiced to prepare the student for practicum. **Prerequisites:** COUN 617, COUN 610/621.

COUN 639 Group Counseling 3 cr.
Emphasis will be placed upon the nature of groups, techniques involved in the development of group dynamics, formation and operation of groups, organization and structure of groups, and the influence of the group. **Prerequisites:** COUN 617, COUN 637.

COUN 646 Interpersonal Sensitivity 3 cr.
Participants will explore their interpersonal interaction style in groups and individually. Human potential of the students will be developed as they enter into authentic, honest, and trusting relationships within the context of a small-group experience, encouraging an examination and understanding of oneself and one's impact on others.

COUN 657 Individual Counseling Practicum (Adolescent/Adult) 3 cr.
Supervised counseling experience under practicum conditions. Emphasis will be placed on implementing relationship-building skills while developing advanced methods of facilitating the counseling process. **Prerequisites:** COUN 637.

COUN 659 Group Counseling Skills (Adolescent/Adult) 3 cr.
Provides a supervised clinical experience to develop and practice group counseling facilitation skills appropriate to the various stages of a counseling group. **Prerequisite:** COUN 639.

COUN 667 Individual Counseling Practicum (Child) 3 cr.
Provides a child counseling experience in applying appropriate interventions and consultation practices designed to facilitate the personal, social, and academic growth of children. **Prerequisites:** COUN 627.

COUN 669 Group Counseling Practicum (Child) 3 cr.
An experientially based course in which counselors in training learn how to manage group counseling experiences involving children (ages 5 to 12). This supervised clinical experience draws upon the knowledge, theories, and skills presented in COUN 629, Group Procedures. **Prerequisite:** COUN 629.

COUN 681 Special Topics 3 cr.

COUN 699 Independent Study 1-3 cr.
Topic pertinent to the individual's program of study. By permission of department chairperson and advisor only.

COUN 720 Ethical and Legal Issues in School Counseling 3 cr.
Designed to examine the professional, ethical, and legal issues that impact the practice of the professional counselor working in a school setting. Considerable emphasis is placed upon the understanding and application of ethical standards and legal statutes, which affect school counselors when making critical decisions about clients. **Prerequisites:** COUN 621, COUN 627/637. Students enrolled in M.A. program are restricted from taking this course.

COUN 730 Ethical and Legal Issues in Community Counseling 3 cr.
Emphasis is on professional, ethical, and legal issues that impact the practice of the professional counselor working in the community setting. Examines the function and application of ethical standards and legal statutes that affect community counselors. **Prerequisites:** COUN 610, COUN 627/637. Students enrolled in M.Ed. program are restricted from taking this course.

COUN 755 Field Experience 3 cr.
Provides a supervised field placement for students in the Counseling programs. The plan and scope of the field experience will be determined by the student and supervising faculty on an individual basis. May be repeated for a maximum of six credits. **Prerequisite:** Core and population-specific courses.

COUN 798 Internship in Counselor Education 12 cr.
The internship provides an opportunity to apply didactic experiences in an actual work setting. Sites must be approved by the department.

COUN 850 Thesis 3 cr.

CRIM: Criminology

Department of Criminology
College of Humanities and Social Sciences

CRIM 600 Criminological Theory 3 cr.
An examination of criminological theories with emphasis on origins and applications of relevant theoretical approaches to crime and criminally deviant behavior. Required of all master's students.

CRIM 601 Proseminar 3 cr.
Survey of current research, critical issues in the administration of justice, and criminological theory. Designed to acquaint the student with recent developments in the discipline of criminology. Required of all master's students.

CRIM 605 Research Methods 3 cr.
Methods and techniques of research in criminology. An in-depth examination of the role of research in the analysis, interpretation, and clarification of problems in criminology and the administration of justice. The development of a research proposal/thesis prospectus will be the end product of the course. Required of all master's students.

CRIM 610 Legal Issues in Criminology 3 cr.
An in-depth study of contemporary legal issues faced by criminal justice professionals. Emphasis is placed on criminal constitution problems as well as the judicial review of administrative decisions made by criminal justice organizations. Required of all master's students.

CRIM 630 Seminar in Administration and Management in Criminal Justice 3 cr.
The study of bureaucracy and complex organization with emphasis on the concepts and practices of the organization and management of agencies in the administration of justice. Required of all master's students.

CRIM 631 System Dynamics in the Administration of Justice 3 cr.
A study of dynamic systems and analytical techniques relevant for understanding new perspectives of the administration of justice. Required of all master's students.

CRIM 665 Criminal Justice Planning and Evaluation 3 cr.
The study of planning and evaluation in criminology and the administration of justice and of the literature and practices, including problems and issues and tasks confronting planners and evaluators.

CRIM 670 Seminar in Contemporary Corrections 3 cr.
An examination of current issues and problems in contemporary corrections.

CRIM 681 Special Topics 3 cr.
Special topics courses are offered at the discretion of the department in a wide area of subjects directly related to law enforcement, courts, corrections, or security.

CRIM 685 Seminar in Contemporary Juvenile Justice and Delinquency 3 cr.
An examination of current issues and problems in contemporary juvenile justice and delinquency.

CRIM 690 Seminar in the Contemporary Judicial System 3 cr.
An examination of current issues and problems in the contemporary judicial system.

CRIM 698 Graduate Readings in Criminology 3 cr.
With faculty supervision, students will read at least six major criminological texts and participate in a seminar situation for the purpose of discussing the reading materials.

CRIM 699 Independent Study 3 cr.
Research of a significant issue or problem in criminology or the administration of justice. Instructor, coordinator, and chair approval required. May be taken twice for a maximum of 6 semester hours.

CRIM 710 Advanced Theoretical Criminology 3 cr.
An intensive examination and critical analysis of the original works of selected theorists. Major theorists will be chosen each semester based on the interests of the professor and students.

CRIM 717 Advanced Qualitative Methods	3 cr.
Explores the criminological research enterprise from the qualitative perspective. Focuses on the relationship among all components of research design, including problem formulation, theory, data collection, analysis, and presentation of findings. Students will individually design a project and carry out preliminary stages of data collection. Permission required.	
CRIM 718 Quantitative Strategies for Analysis in Criminology	3 cr.
Computer analysis of quantitative data to the behavioral science of criminology: the logic of data analysis, fundamentals of statistical procedures commonly used in criminological analysis. Students also will learn to critique published criminological research.	
CRIM 720 Advanced Quantitative Methods	3 cr.
An in-depth analysis of the logic and uses of advanced criminological research models. Emphasis will be given to the use of quantitative research techniques and perspectives as they relate to formal theory construction.	
CRIM 730 Ethical and Philosophical Issues in Criminology	3 cr.
An intensive examination of selected ethical and philosophical issues currently facing the field of criminology. Issues for analysis will be drawn from (but not limited to) such categories as the function of law; integrating theory and practice; ethical issues surrounding research strategies; punishment forms; social control strategies; and crime and justice in the future.	
CRIM 740 Advanced Criminal Justice Policy	3 cr.
A study of the impact of government crime policies on individuals and groups. An examination of criminal justice policy formulation and analyses of specific policies relevant to crime and the administration of justice.	
CRIM 745 Comparative Justice Systems	3 cr.
An examination of criminological field research in diverse cultural settings around the world. Special focus given to problem formulation, theory construction, and general research design in comparative justice systems.	
CRIM 748 Criminal Violence: Theory, Research, and Issues	3 cr.
An overview of general theories of violence and their applications to criminal violence. A variety of research and policy programmatic issues will be explored, with attention given to issues relating to predicting dangerousness.	
CRIM 749 Victimology: Theory, Research, and Policy Issues	3 cr.
Examines theoretical perspectives and research methods as they impact on the research questions and findings in the field of victimology. Class, race, age, and gender will be applied to analyze issues regarding the role of the victim, kinds of victimization, fear of crime, victimization of offenders and victims by the criminal justice system, and victim's compensation and human rights.	
CRIM 750 Doctoral Colloquium in Criminology	3 cr.
Provides an academic setting for graduate students to present research and theoretical papers for group discussion. Special topics in criminology will be selected each semester.	
CRIM 781 Special Topics	3 cr.
CRIM 801 Advanced Applied Research I	3 cr.
The application of selected principles of criminological theory and research methods toward understanding and resolving specific problems of justice processing.	
CRIM 802 Advanced Applied Research II	3 cr.
The application of selected principles of criminological theory and research methods toward understanding and resolving specific problems of justice processing.	
CRIM 803 Advanced Applied Research III	3 cr.
The application of selected principles of criminological theory and research methods toward understanding and resolving specific problems of justice processing.	
CRIM 804 Advanced Applied Teaching Techniques	3 cr.
A review of prominent models of effective teaching and the applications of selected models of teaching theory to specific criminological courses.	
CRIM 850 Thesis	3-6 cr.
CRIM 950 Dissertation	1-12 cr.

CURR: Curriculum and Instruction

Department of Professional Studies in Education
College of Education and Educational Technology

CURR 590 Improving Professional Practice in Instructional Settings	1-3 cr. and
CURR 591 Improving Professional Practice in Instructional Settings 1-3 cr.	
Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. In addition, the course may be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. Prerequisite: Appropriate teaching certificate or other professional credential or preparation.	
CURR 705 Curriculum Evaluation	3 cr.
Provides students with a framework for the systematic analysis of curriculum from the context of social, historical, and philosophical foundations and theory and research in the field. Emphasis will be on curricular evaluation in the context of theoretical foundations of curriculum. Prerequisite: Permission.	
CURR 710 Advanced Topics in Human Development and Learning	3 cr.
Students will analyze, evaluate, and synthesize theories of human development and learning. Emphasis will be on learning and development throughout the life span. Prerequisite: Permission.	
CURR 715 Writing for Professional Publication	3 cr.
Designed to enhance the scholarly and publishable writing skills of doctoral students in education. Students will produce and submit a proposal for a presentation at a professional conference. Students will also develop a full manuscript to be submitted to a scholarly journal and a book prospectus. Skills in responding to editorial feedback, peer review, and public presentation of scholarly work will be developed. Prerequisites: CURR 705 and CURR 710.	
CURR 720 Doctoral Seminar in Research Methods	3 cr.
Provides students with the opportunity to acquire, refine, and apply the knowledge and skills to evaluate and design educationally relevant research. Emphasis in the course will be on quantitative and qualitative research approaches within educational settings. Prerequisites: CURR 705 and CURR 710.	
CURR 725 Critical Analysis of Issues in Education	3 cr.
Examines current issues and innovations which are influencing reform in basic and postsecondary education. Relationships between research, policymaking, and implementation will be emphasized. Prerequisites: CURR 705 and CURR 710.	
CURR 730 Analysis of Effective Instruction	3 cr.
Explores reflective practice as it relates to the design, implementation, and evaluation of instruction at all educational levels, with particular emphasis on preparation for teaching and supervising in teacher education. Topics include contemporary models of supervision and research in teaching and learning. Prerequisite: CURR 720.	
CURR 735 Education for Cultural Pluralism	3 cr.
Combines theory and practice related to culture and perceived social and philosophical ideology of pluralism as significant forces in education. Critical analysis of research, theory and practice, and curriculum design in multicultural environments. Focus is on the exploration of a variety of perspectives related to race, gender, culture, disability, and socioeconomic status. Prerequisite: CURR 725.	
CURR 740 Technology in the Curriculum	3 cr.
Focuses on the dynamics of technology and how it permeates educational processes. The course is designed for those working in education development at the district level or teaching in higher education. Through critical inquiry and reflection of relevant research, students will explore the theoretical and practical issues of technology in the curriculum as they apply to education in the twenty-first century. Prerequisite: CURR 720.	
CURR 745 Literacy: Theory, Research, and Practice	3 cr.
Examines critical issues and cognitive processes in language learning. Topics will include changing definitions of literacy, cultural aspects of literacy, research fostering literacy development, and alternative assessment practices. Research and theory on strategies used to support a developmental view of literacy will be critically evaluated. Prerequisites: CURR 720.	

COURSE DESCRIPTIONS

CURR 750 Issues and Processes in Curricular Change 3 cr.
Designed to provide students opportunities to analyze and evaluate critically curricular development processes and to examine those elements as they affect school curricula. **Prerequisite:** CURR 720.

CURR 755 Doctoral Seminar in Curriculum and Instruction 3 cr.
Students will engage in collegial discourse about scholarly works that they have produced and refine those works based on responses from instructors and peers. Reviewed material will become part of the professional portfolio. **Prerequisite:** CURR 725.

CURR 781 Special Topics 1-3 cr.

CURR 798 Supervised Doctoral Internship 6 cr.
Applied field experience chosen by doctoral students with the approval of the dissertation advisory committee. **Prerequisite:** Permission only.

CURR 950 Dissertation 1-12 cr.
Students preparing a doctoral dissertation for credit must register for this course. Number of credits assigned and the extent of time for which research activity is scheduled depend on nature and scope of student's research problem and his/her general doctoral program.

88 ECED: Early Childhood Education

Department of Professional Studies in Education
College of Education and Educational Technology

ECED 590 Improving Professional Practice in Instructional Settings 1-3 cr.
and

ECED 591 Improving Professional Practice in Instructional Settings 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

ECED 660 Child Study and Assessment 3 cr.
Designed to introduce students to issues and strategies affecting the evaluation of the three-to-eight-year-old child's physical, social, emotional, cognitive, and aesthetic development. Naturalistic observation, rating scales, tests, and portfolio assessment of children's work will be examined.

ECED 661 History and Philosophy of Early Childhood Education 3 cr.
Introduces students to the historical and philosophical foundations of the field of early childhood education. Major historical events, social trends, and philosophical perspectives from around the globe that have shaped the education of the very young will be addressed. Students will examine contemporary circumstances in early childhood education in terms of the time-honored traditions and important insights from leaders in the profession.

ECED 664 Early Childhood Curriculum 3 cr.
Examines the developmental continuity of educational programs for the young child, ages three through eight. Materials, strategies, concepts, and learning experiences that are suited to each child's developmental level will be selected, planned, applied, and evaluated by students.

ECED 665 Issues and Trends in Early Childhood Education 3 cr.
Designed to provide early childhood educators with a child advocacy perspective on contemporary social forces, professional issues, and public policy trends affecting young children. Students will develop skills in identifying key issues using problem-solving strategies, communicating ideas, and functioning as change agents within educational institutions. Interpersonal skills and collaborative relationships with colleagues, administrators, politicians, parents, and community agencies will be emphasized.

ECED 766 Early Childhood Program Evaluation 3 cr.
Emphasizes the study and evaluation of programs designed for preschool through the primary grades. Students will assess early childhood curricula, review relevant research, and use evaluation frameworks to assess program quality. Cross-cultural comparisons of early childhood curricula in the United States and programs from other cultures and nations will be studied. **Prerequisites:** ECED 661, ECED 664, or permission of instructor.

ECON: Economics

Department of Economics
College of Humanities and Social Sciences

ECON 501 Foundations of Modern Economics 3 cr.
Survey of micro and macroeconomics designed for the student who is not already well grounded in the field.

ECON 545 International Trade 3 cr.
Study of the microeconomic segment of international specialization and exchange, including theories of international trade and their application to commercial policies; historical survey and examination of current problems of international trade; and the institutional setting of international trade. **Prerequisites:** ECON 121 and ECON 122 or permission of the instructor.

ECON 546 International Payments 3 cr.
Study of the macroeconomic segment of international specialization and exchange, including analysis of balance of payments, exchange rates, and the mechanism of international economic and monetary adjustments; international macroeconomic policy; historical survey and examination of current international financial problems; and the institutional setting of international payments. **Prerequisites:** ECON 121 and ECON 122 or permission of the instructor.

ECON 634 Managerial Economics 3 cr.
Applications of economic theory to organizational decision-making. Managerial practice is analyzed using techniques of maximization, minimization, and optimization. Organizational objectives are evaluated using techniques of statistical estimation of revenues, costs, and outputs. **Prerequisite:** ECON 121, ECON 122, MATH 121 or the equivalent, or permission of instructor.

ECON 699 Independent Study 1-6 cr.
Directed readings, written assignments, and research on a specific topic determined by the student and the instructor. **Prerequisite:** ECON 501, credits of "C" or better in six semester hours of Principles of Economics, or permission of instructor.

EDAD: Education Administration

Department of Professional Studies in Education
College of Education and Educational Technology

EDAD 590 Improving Professional Practice in Instructional Settings 1-3 cr.
and

EDAD 591 Improving Professional Practice in Instructional Settings 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

EDAD 656 School Administration 3 cr.
Designed as a basic course in school administration, this course is intended to serve as an introduction to the principles and practices of school administration for students who aspire to a supervisory or administrative position in public schools. Human aspects of educational administration are emphasized.

EDAD 660 School Finance 3 cr.
Budgeting procedures in school finances, facilities, and management are presented. School budgeting, accounting, bonding, and various monetary applications are presented as well as the various procedures for acquiring funds. **Prerequisite:** For approved Administration and Leadership Studies candidates or permission of the instructor.

EDEX: Education of Exceptional Persons

Department of Special Education and Clinical Services
College of Education and Educational Technology

EDEX 515 Preschool Education for Children with Disabilities 3 cr.
Provides information on assessment, intervention strategies, curriculum, and prescriptive planning for preschool children with disabilities. Serves as a course for departmental majors who are specifically interested in early childhood education, as an elective for other interested students in related fields, and as a priority course for Early Childhood Education majors. **Prerequisites:** Certification or EDEX 650 or EDEX 111 or EDEX 300.

EDEX 516 Education of Persons with Emotional or Behavioral Disorders 3 cr.

Focuses on major theoretical positions regarding etiology of emotional and behavioral disorders, definition and identification of the population, and educational approaches. Reviews research in the field, including current issues, trends, practices, and services. **Prerequisites:** Certification or EDEX 650 or EDEX 111 or EDEX 300. Designed to meet teacher certification requirements.

EDEX 517 Education of Persons with Mental Retardation or Developmental Disabilities 3 cr.

Provides guidelines and methods for working with the extremely disabled in educational settings. Emphasizes methods of providing stimulation of basic skill development in areas of motor, perceptual, cognitive, language, and social skills. **Prerequisites:** Certification or EDEX 650 or EDEX 111 or EDEX 300. Designed to meet teacher certification requirements.

EDEX 518 Education of Persons with Physical or Multiple Disabilities 3 cr.

Focuses on major theoretical positions regarding etiology of a wide and diverse range of physical/multiple disabilities, the definition and identification of the population, and educational approaches. Reviews research in the field, including current issues, trends, practices, and services. **Prerequisites:** Certification or EDEX 650 or EDEX 111 or EDEX 300. Designed to meet teacher certification requirements.

EDEX 519 Education of Persons with Brain Injuries or Learning Disabilities 3 cr.

Focuses on major theoretical positions regarding etiology of neurological and learning disabilities, definition and identification of the population, and educational approaches. Reviews research in the field, including current issues, trends, practices, and services. **Prerequisites:** Certification or EDEX 650 or EDEX 111 or EDEX 300. Designed to meet teacher certification requirements.

EDEX 581 Special Topics**EDEX 590 Improving Professional Practice in Instructional Settings** 1-3 cr. and

EDEX 591 Improving Professional Practice in Instructional Settings 1-3 cr. Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

EDEX 599 Independent Study in Special Education 1-3 cr.

Individual students develop research studies in consultation with a faculty member. Departmental consent required.

EDEX 650 Exceptional Children and Youth 3 cr.

Surveys characteristics, definition, identification, and service delivery models for children and youth with disabilities or who are gifted/talented. Considers state and federal policies governing special education program service delivery, as well as the legal rights of individuals with disabilities.

EDEX 651 Vocational Preparation and Transition for Youth with Disabilities 3 cr.

Develops competencies in the skills necessary to help students with disabilities make a successful transition from school to eventual employment.

EDEX 652 Assessment of Persons with Disabilities 3 cr.

Provides students with an understanding of the diagnostic tools and techniques used to evaluate students with disabilities. Examines formal and informal assessment measures used in the diagnosis and remediation of educational problems. Emphasizes those skills expected of a special education teacher as a member of a multi interdisciplinary team.

EDEX 653 Research Seminar in Special Education 3 cr.

Provides enrollees with opportunities to focus on current research in special education. Focus of research may change each term in accordance with preferences of instructor and students. Emphasizes critical analysis of research, classroom applications of that research, and implications for future research.

EDEX 654 Advanced Instructional Design in Special Education 3 cr.

Emphasizes effective instructional approaches appropriate for the education of students with mild to profound disabilities. Considers educational priorities and effective teaching practices in developing and evaluating individualized, integrated interventions.

EDEX 655 Professional Collaboration and Team Building for Special Educators 3 cr.

Focuses on strategies for collaborating with families, regular and special educators, paraprofessionals, and other service providers in the school and community.

EDEX 685 Practicum and Internship 3-9 cr.

Offers advanced students guided practicum experiences in selected schools, residential institutions, clinics, or agencies. Internships or supervised student teaching planned individually. Students analyze, evaluate, and report on their experiences.

EDHL: Education of Persons with Hearing Loss

Department of Special Education and Clinical Services
College of Education and Educational Technology

EDHL 590 Improving Professional Practice in Instructional Settings 1-3 cr. and

EDHL 591 Improving Professional Practice in Instructional Settings 1-3 cr. Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

EDIR: Instructional Programs and Resources in Education

Department of Instructional Programs and Resources in Education
College of Education and Educational Technology

EDIR 590 Improving Professional Practice in Instructional Settings 1-3 cr. and

EDIR 591 Improving Professional Practice in Instructional Settings 1-3 cr. Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

EDSP: Educational and School Psychology

Department of Educational and School Psychology
College of Education and Educational Technology

EDSP 577 Assessment of Student Learning 3 cr.

Acquaints students with major methods and techniques of evaluation used to assess and report growth, development, and academic achievement of learners in elementary and secondary schools, including interpretation of standardized test information.

EDSP 590 Improving Professional Practice in Instructional Settings 1-3 cr. and

EDSP 591 Improving Professional Practice in Instructional Settings 1-3 cr. Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

EDSP 604 Advanced Educational Psychology 3 cr.

An upward extension of educational psychology with a systematic review of current research and learning theory with emphasis on classroom applications, including studies of the organization, administration, and operation of schools.

EDSP 616 Applied Educational Research Methods 3 cr.

Develops skills needed to engage in applied educational research using standard experimental research and evaluation designs, typical measurement approaches, and parametric statistical procedures. A practical problem presentation mode

COURSE DESCRIPTIONS

enhances an integrated holistic approach to design, sampling, measurement, statistics, hypothesis testing, and interpretation of results. A microcomputer statistical package is used to assist in the analysis of data.

EDSP 649 Practicum I 3 cr.

Provides school psychology students with an opportunity to complete a series of structured observations and interviews in school and community settings pertinent to their understanding of the organization of these settings and the functioning of the variety of professionals working in these settings. Acquaints students with diverse types of children and refines their understanding of critical issues confronting education. **Prerequisite:** For approved school psychology candidates or permission of instructor.

EDSP 653 Crisis Intervention and Psychological Counseling of Exceptional Children 3 cr.

Provides educational psychology students with theoretical background and entry-level skills for counseling children (K-12) who have special needs and assists their families with adjustment and coping skills. In addition to basic counseling techniques, students will be exposed to best practices in counseling multicultural populations and those with disabilities and in crisis intervention. Emphasis will be on short-term, goal-oriented interventions. The role of the psychologist in the development and practice of the school crisis intervention team will also be addressed, as well as cooperative functioning with other service professionals in the schools.

EDSP 675 Learning and Instruction 3 cr.

Provides an in-depth examination of developmental, cognitive, and interactionist learning theories as they apply to classroom instruction. Emphasis is on direct application of theory to the improvement of classroom instruction and the relationship of learning and motivation.

EDSP 677 Advanced Psychology of Adolescent Education 3 cr.

Presents an in-depth discussion of developmental issues that impact adolescents in instructional environments. In particular, physical, societal, and educational influences as they affect high-risk behaviors in this age group are examined. Students are expected to research and present successful intervention programs for adolescents.

EDSP 679 Advanced Studies in Behavioral Problems 3 cr.

Explores behavior problems encountered in classroom situations and gives cause, characteristics, and some preventative and remedial techniques, including those appropriate for managing students with learning and behavioral exceptionalities.

EDSP 681 Special Topics in Educational Psychology 3 cr.

Designed for those students who wish to do independent research in special areas. **Prerequisite:** Departmental chairperson permission.

EDSP 711 Introduction to School Psychology 3 cr.

The professional responsibilities of the school psychologist are explored in relation to ethical and legal aspects, state and federal litigation and legislation, dynamics and organization of regular and special education, issues in multicultural and exceptional child education, and provision of assessment, placement, and intervention services in the public schools. **Prerequisite:** Permission of the instructor.

EDSP 712 Assessment for Intervention I 3 cr.

Provides school psychology students with the knowledge and skills needed to administer, score and interpret selected individually administered tests of intelligence and achievement. Trains students to conduct curriculum-based measurement procedures, to communicate assessment results, and to use assessment results for intervention planning. **Prerequisite:** For approved school psychology candidates or permission of instructor.

EDSP 713 Assessment for Intervention II 3 cr.

Provides the student with skills necessary to administer and interpret: informal, developmental, perceptual-motor, adaptive, achievement, and other allied measures used in a psychoeducational assessment. Moreover, students should become aware of issues associated with individualizing assessment based upon variables such as ethnicity, SES, gender, medical conditions, and linguistic and cultural differences. **Prerequisites:** For approved school psychology candidates or permission of instructor.

EDSP 715 Doctoral Seminar in Applied Educational Research 3 cr.

Develops skills needed to engage in applied educational research using clinical and practical research/evaluation designs, measurement approaches, and nonparametric statistical procedures. A practical problem presentation mode enhances a consolidation of design, sampling, measurement, nonparametric statistics, hypothesis testing, and interpretation of results. Microcomputer statistical package use assists in the analysis of data. **Prerequisite:** EDSP 616.

EDSP 716 Doctoral Seminar in Advanced Educational Research 3 cr.

Provides an overview of complex educational research and evaluation designs, measurement approaches, statistical procedures, hypothesis testing, and interpretation of results. Topics include the philosophy and ethics of research, mixed hierarchical design, profile analysis, factorial validity estimation, factor analysis, multivariate analysis of variance, discriminant function analysis, path analysis, meta-analysis, power, robustness, and randomization tests. Statistical packages will be used to assist data manipulation and analysis. **Prerequisite:** EDSP 715.

EDSP 718 Instructional Consultation 3 cr.

Reviews the basic principles of the consultative process as applied to working with teachers and school-based problem solving teams to help students with academic problems. Students will be expected to demonstrate skill in consultative interviewing regarding academic problems, problem identification, data gathering relevant to both curriculum and the classroom environment, and intervention design, execution, and evaluation in pre-kindergarten through high school settings. **Prerequisites:** For approved school psychology candidates; must have taken or take concurrent with EDSP 712 and EDSP 713; permission of instructor.

EDSP 742 Neuropsychology of Children's Learning Disorders 3 cr.

A neuropsychological approach to the identification of children with learning disorders will be discussed. Such factors as etiology, epidemiology, subtyping, diagnoses, and remediation will be considered. Students will learn the theoretical framework necessary to understand the factors underlying learning disorders in children. **Prerequisite:** EDSP 712 or permission.

EDSP 750 Practicum II 3 cr.

Involves a series of opportunities for students to practice clinical and supervisory skills in a highly structured university clinic setting. Based on their level of training and experience, students will be required to demonstrate distinct skills related to: (1) organization and dynamics of the educational process; (2) assessment for intervention; (3) direct and indirect intervention methods; and (4) supervision of the clinical practice of other school psychologists. Certification and Track A doctoral students will enroll twice for 6 semester hours while experienced Track B doctoral students will have a 3-semester-hour requirement. **Prerequisite:** For approved school psychologist certification and doctoral degree candidates only.

EDSP 751 Internship 3 cr.

Involves a series of supervised field experiences in public school, clinic, and hospital settings. Students apply their understanding and skills in the general practices of school psychology or in the area of specialization developed in their doctoral course sequence. The school rotation, required of all certification and doctoral students, is a ten-month placement, at least half of which must be in a public school setting. An additional 300 clock hours are required for doctoral degree candidates in a setting appropriate for their area of specialization. **Prerequisite:** For approved school psychology candidates; completion of most course work, practica, and comprehensive examinations, permission of instructor.

EDSP 753 Child Neuropsychology 3 cr.

Examines brain-behavior relationships and neurodevelopmental functioning in children. Discusses the neuropsychological principles necessary to assess the educational, cognitive, and behavioral functioning of children in relation to the development of remedial programs. **Prerequisite:** EDSP 712 or permission of the instructor.

EDSP 763 Assessment of Personality and Behavior Problems of Children 3 cr.

An introduction to various personality and behavior assessment techniques currently used. **Prerequisite:** For approved school psychologist candidates or permission of the instructor.

EDSP 764 Seminar in School Psychology I 3 cr.

An examination of practices, trends, and issues in a specialized area of diagnosis. The areas to be examined will be based on the predetermined interests of the students and the expertise of the available faculty. **Prerequisite:** Permission of instructor.

EDSP 765 Seminar in School Psychology II 3 cr.

An examination of practices, trends, and issues in a specialized area of treatment or remediation. The areas to be examined will correspond to those covered in EDSP 764. The focus of the seminar will be to develop the student's understanding and skills in implementing appropriate treatment and remedial strategies in home, school, and clinic settings. **Prerequisite:** Permission of the instructor.

EDSP 766 Educational and Psychopharmacological Issues Associated with Child Neuropsychology 3 sh
The purpose of this course is twofold. First, to familiarize the student with the general principles of clinical psychopharmacology and how the effects of medication may change or hinder the child's academic performance and social behaviors. Second, to familiarize the student with the theoretical and practical issues associated with neuropsychological assessment of school-aged children. Both the above areas will delineate the factors associated with a child's ability to benefit from an education. **Prerequisite:** For approved school psychology candidates: permission of instructor.

EDSP 777 Seminar in Family-School Relations 3 cr.
Focuses on selected aspects of a wide range of issues related to the contemporary American family as they affect the behavior of children and their functioning within the public schools. Parent consultation and training strategies will be emphasized. **Prerequisite:** Permission of the instructor.

EDSP 778 Family Services for School-Related Problems of Children with Special Needs 3 cr.
A supervised experience in brief family interventions for school-related problems. Students will provide direct services in a clinic setting to families of children in special education and those in general education with specific problems related to learning. **Prerequisites:** EDSP 777 and PSYC 634.

EDSP 850 Thesis 3 cr.

EDSP 950 Dissertation 9 cr.

EDUC: Education

Department of Professional Studies in Education
College of Education and Educational Technology

EDUC 590 Improving Professional Practice in Instructional Settings 1-3 cr. and

EDUC 591 Improving Professional Practice in Instructional Settings 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

EDUC 595 International Study Tour in Education 3 cr.
Provides an analysis of educational programs and methodology in selected countries. Introduces students to series of diverse educational experiences. Special attention to teaching techniques, innovative curriculum, and school organizational patterns. Teaching takes place on site in selected countries.

EDUC 600 Basic Foundations of Reading Education 3 cr.
Emphasizes on nature of reading process, nature of learner, advancement of pupil's reading skills, how pupils learn to read, and what teachers can do when pupils fail to learn to read.

EDUC 631 Curriculum Development 3 cr.
Students learn curriculum development by differentiating among educational goals, objectives, and learning activities. Sources of curriculum goals and objectives, such as needs assessment, philosophical models, and psychological models are studied. The design and selection of learning activities, as well as designs for evaluating the effectiveness of curriculum, are considered.

EDUC 650 School and Community 3 cr.
Development and maintenance of a purposeful program of communication between the school and the community through study of selection, organization, and functions of citizen advisory committees and cooperative use of various community services.

EDUC 651 Recent Issues and Innovations in Education 3 cr.
Newer trends in classroom procedure, equipment, and materials, as well as problems involved in improvement of instruction. Whenever possible, sessions are held to demonstrate and use recently developed materials. Individual research and field trips involve many of the new programs in elementary education.

EDUC 652 School Evaluation 3 cr.
Current models for both formative and summative evaluations are presented with emphasis on their application to school programs and other educational projects. Prior knowledge of curriculum development and/or project proposals is helpful but not required.

EDUC 658 School Law and Negotiations 3 cr.
An understanding of legal principles as they pertain to functions of personnel in public school systems and to persons engaged in education. Study of statutory enactments, review of court actions through case studies, and analysis of collective negotiation law.

ELED: Elementary Education

Department of Professional Studies in Education
College of Education and Educational Technology

ELED 590 Improving Professional Practice in Instructional Settings 1-3 cr. and

ELED 591 Improving Professional Practice in Instructional Settings 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

ELED 641 Recent Trends in Social Studies 3 cr.
Specific problems with curriculum, teaching, and learning experiences and evaluation are stressed. Each student will research a special problem or area of interest.

ELED 642 Mathematics in Elementary School 3 cr.
Experiences with manipulative materials, games and puzzles, activity centers, and lab approach to mathematics. Inexpensive mathematics lab equipment will be constructed. Sources of literature and materials are presented and used. Opportunities are given to write activity and problem cards and to plan mathematics activity centers. Psychological foundations and mathematics structure are used as reference for suggested activities and curriculum studies.

ELED 643 Resource Materials in Elementary Science 3 cr.
Introduces underlying philosophy and use of materials of several of the current national curriculum programs in elementary science. Emphasizes the following programs: (1) Science: A Process Approach (SAPA), (2) Elementary Science Study (ESS), (3) Science Curriculum Improvement Study (SCIS), and (4) Conceptually Oriented Program in Elementary Science (COPES), including microteaching techniques and development and preparation of individualized self-instruction modules. Students are required to work with various program materials.

ELED 655 Developmental Influences on Children's Learning 3 cr.
Examines the physical, cognitive, social, and emotional development of children and the impact of development on learning processes. Students will discuss, analyze, and apply developmental theory and research to address issues confronting contemporary early childhood and elementary practitioners. Final projects will emphasize collaboration with professionals in other fields who work with children, families, and educators. **Prerequisites:** Permission of advisor.

ELED 681 Special Topics in Education 3 cr.
Designed for the students who wish to do independent research in special areas.

ELED 698 Supervised Internship 6 cr.
A carefully planned, field-based, internal work experience proposed by the advanced graduate student to extend professional competence, subject to approval by advisory committee. Registration by permission only.

ELED 699 Independent Study in Elementary Education 1-3 cr.
Students select one or more topics which are of critical importance in elementary education and meet staff members for independent reading, study, analysis, and evaluation. Registration only by permission of Graduate Committee.

ELED 781 Special Topics

ELED 798 Supervised Doctoral Internship 3 cr.
Applied field experience chosen by doctoral students with the approval of the dissertation advisory committee. **Prerequisite:** Permission only.

ELED 850 Thesis 3 cr.
For the student writing the thesis. Should be scheduled for the semester in which the student plans to complete his/her work. All thesis writing involves a committee composed of the student's advisor and two additional faculty members.

ELED 950 Dissertation 1-12 cr.
Students preparing a doctoral dissertation for credit must register for this course. Number of credits assigned and the extent of time for which research activity is scheduled depend on nature and scope of student's research problem and his/her general doctoral program.

Note: Credits for both thesis and dissertation, if not completed during the semester scheduled, are recorded as a grade of "R," **research in progress**. They remain so until the project is approved. They **do not** automatically revert to the grade "F" in a specific length of time. Also, thesis and dissertation credits can be programmed above the regular load.

ELMA: Elementary and Middle School Mathematics

Department of Mathematics
College of Natural Sciences and Mathematics

ELMA 517 Introduction to Probability and Statistics 3 cr.
Introduces students to elementary concepts of probability which will enable them to analyze data, make predictions, and determine what concepts may be used with children. **Prerequisite:** MATH 152 or equivalent.

ELMA 520 Pre-Calculus Mathematics I 3 cr.
Examines the function concept as applied to elementary real-number functions and graphing techniques for these functions. Topics include real-number functions such as absolute value, step, linear quadratic and other polynomial functions, trigonometric and other periodic functions, exponential logarithmic functions, and all other inverse functions. Students will examine curricular materials that develop function concepts in grades K-8. **Prerequisite:** MATH 152 or equivalent.

ELMA 556 Principles of Geometry I 3 cr.
Students become acquainted with an informal, intuitive approach to geometry. Activities and materials for teaching geometrical concepts to children are an integral part of the course. **Prerequisite:** MATH 152 or equivalent.

ELMA 557 Introduction to Number Theory 3 cr.
Introduction to topics in elementary number theory, including basic operations and properties of integers; divisibility properties of integers; modular arithmetic and congruences; diophantine equations; interesting relationships among numbers; applications of number theory in elementary school mathematics. **Prerequisite:** MATH 152 or equivalent.

ELMA 558 Introduction to Logic and Logical Games 3 cr.
Introduction to some basic ideas, terminology, and notation of logic. Topics considered: symbolic logic, with special emphasis on algebra of propositions; applications of Boolean algebra, such as algebra of sets and switching circuits; introduction to quantification theory and its value in determining validity of mathematical arguments, inference schemes, and logical puzzles; and consideration of other topics in logic suitable for a K-8 mathematics curriculum. **Prerequisite:** MATH 152 or equivalent.

ELMA 559 Computer-Related Topics in the Elementary and Middle School 3 cr.
Provides teachers with the concepts and techniques necessary to teach computer-related topics to children in the elementary and middle schools. **Prerequisite:** MATH 152 or equivalent.

ELMA 571 Basic Concepts of Algebra 3 cr.
Concepts of basic algebraic structure such as group, ring, integral domain, field, and vector space are studied within the context of the mathematical maturity of the student. Other topics include relations and functions, systems of equations, and inequalities. Consideration given to development of these concepts in the mathematics curriculum. **Prerequisite:** MATH 152 or equivalent.

ELMA 581 Special Topics 3 cr.
Special topics which go beyond the scope of regular offered courses. Offered on basis of student interest and available staff. The student may take more than one Special Topics offering with the written approval of the advisor. **Prerequisite:** MATH 152 or equivalent.

ELMA 650 Curriculum and Instruction in Elementary School Mathematics 3 cr.
The design of this course is to familiarize the elementary middle school teacher with the philosophical and psychological issues that guide the development of mathematics curricula. Topics include a history of the development of mathematics curriculum; innovative curricula that have had impact on teaching and learning; ways of implementing a contemporary program; and criteria for

textbook selection. **Prerequisite:** Methods course in teaching mathematics or consent of instructor.

ELMA 652 Diagnosis and Remedial Teaching of Mathematics 3 cr.
Examines why some children have difficulty in learning mathematical concepts and presents tools and techniques for diagnosing and remediating common difficulties in elementary and middle school mathematics. Valuable for those teaching in elementary, middle school, or remedial programs. **Prerequisite:** Methods course in teaching mathematics or consent of instructor.

ELMA 653 Mathematics for the Gifted Student 3 cr.
Examines different approaches for mathematically gifted students. Students become familiar with resources and elementary programs designed for use in either regular classrooms or special classes for the gifted. **Prerequisite:** Methods course in teaching mathematics or consent of instructor.

ELMA 654 Teaching Problem Solving in the Elementary and Middle School 3 cr.
Intended to teach teachers how to become better problem solvers; teaches problem-solving techniques appropriate for grades K-8. **Prerequisite:** Methods course in teaching mathematics or consent of instructor.

ELMA 655 Mathematics for Early Childhood 3 cr.
Studies child-centered, activity-oriented mathematics programs for early childhood education. Focuses on implementing research to help children develop understanding and insight into basic concepts of mathematics through the use of manipulative materials. Topics include prenumber activities, number activities, numeration, operations on whole numbers, estimation, rational numbers, geometry, measurement, probability, statistics, and problem solving. **Prerequisite:** MATH 152 or equivalent.

ELMA 681 Special Topics 3 cr.
Special topics which go beyond the scope of regular offered courses. Offered on basis of student interest and available staff. The student may take more than one Special Topics offering with the written approval of the advisor. **Prerequisite:** Methods course in teaching mathematics or consent of instructor.

ELMA 698 Supervised Internship 3 cr.
A professional work experience in a cooperating school district under the supervision of designated public school personnel, subject to review and evaluation by a university faculty member. Registration by permission only.

ELMA 699 Elementary Math—Independent Study 1-6 cr.
Under the guidance of a faculty member, a student may study some area of mathematics or mathematics education not covered in the regular courses.

ELMA 850 Thesis 3 cr.

ENGL: English

Department of English
College of Humanities and Social Sciences

ENGL 518 Literature for Adolescents 3 cr.
Offers prospective secondary English teachers a survey of the literature adolescents choose to read, enjoy, and find relevant to their lives. Includes literature that offers psychological and sociological perspectives on adolescents.

ENGL 526 ESL Methods and Materials 3 cr.
An introduction to English as a Second Language theory and practice. Aims: (1) general understanding of current theory and methods of teaching ESL; (2) ability to select appropriate, and adapt existing, materials for elementary and high school ESL students. Recommended for all English teachers who expect to have ESL students in their classes.

ENGL 581 Special Topics in Language and Literature 3 cr.
Allows students to pursue subjects such as textual criticism, prosody, and computers and literature not covered in existing courses.

ENGL 625 Introduction to TESOL 3 cr.
Introduces key concepts in teaching English as a second or foreign language. Offers a broad introduction to the knowledge and skills needed to become a professional teacher of ESL or EFL and prepares students for the remainder of the MATESOL program. Students are expected to improve their language ability as well as their research and presentation skills in this course. Required for MATESOL students in their first semester.

ENGL 630 Research on the Teaching of Literacy and Literature 3 cr.
Examines theory and research in literacy, reading and responding to literature and

other forms of writing, and the teaching of young adult and other relevant works of literature. Includes application of theory and research to classroom practices.

ENGL 632 Linguistics and the English Teacher 3 cr.
Examines four key topics: foundations of linguistic thought, applications of linguistics to the teaching of English, classroom discourse patterns, and language pedagogy.

ENGL 641 Topics in ESL Pedagogy 3 cr.
Explores a single topic in depth. Topics, announced in advance, include such areas as ESL Testing, Teaching Listening Comprehension for ESL Students, Teaching English for Specific Purposes, and Teaching Writing for ESL Students.

ENGL 643 TESL/TEFL Methodology 3 cr.
Surveys current theory and practice in teaching English to non-native speakers and includes traditional and innovative approaches, design, and procedures for teaching all language skills at various educational levels.

ENGL 644 ESL Material and Media 3 cr.
Introduces the basic principles of ESL course design and the evaluation, adaptation, and design of ESL classroom materials and media. Students gain an understanding of the structure and uses of ESL materials, as well as a hands-on experience in syllabus design and the evaluation, adaptation, and creation of ESL materials for specific purposes. Students work on an ESL/EFL media and materials project and put on a Materials and Media Fair where they show their projects.

ENGL 674 Bibliographical Methods in English 3 cr.
Practical training in special methods and materials of research in English.

ENGL 675 Literature and the International Student 3 cr.
Develops the reading, writing, listening, and speaking skills needed for success by the international student in the graduate study of literature in the American university. Examines the principles of literary analysis, research, and documentation in the United States and orients the student to the American library system and the American college classroom.

ENGL 676 Critical Approaches to Literature 3 cr.
Focuses on theoretical and applied approaches to literary criticism. Introduces such approaches as they have been historically developed and are currently practiced and considers how familiarity with a variety of critical methods enhances the appreciation and teaching of literature.

ENGL 681 Special Topics 3 cr.
Courses relating to specialized interests in literature, rhetoric, or linguistics which fulfill special needs or interests. May become permanent course offerings.

ENGL 688 Practicum in TESOL 3 cr.
Intended to provide a balance between observation and practical teaching experience. Students plan, teach, and reflect on lessons. Emphasis is placed on application of theory and pedagogical knowledge gained from course work, as well as on developing skills to reflect on teaching and its consequences for learners. Class size is limited to fifteen students. Although not a prerequisite, this course can be used as a way to prepare for a teaching internship.

ENGL 689 Orientation and Field Experience in the Community College 3 cr.
Examines the community college from historical and philosophical perspectives. Includes observations of classes and interviews with staff at community colleges. Specifically for students preparing for careers in the community college.
Prerequisite: Permission of director of Graduate Studies in Rhetoric and Linguistics.

ENGL 690 Writing as a Way of Learning 3 cr.
Examines the theoretical relationship between thought and writing, with specific attention to ways this relationship underlies learning in all disciplines. The course, which functions as part of the Southcentral Pennsylvania Writing Project, involves reading, writing, and demonstration of pedagogical methods.

ENGL 692 American English Grammar 3 cr.
The study of phonology, morphology, syntax, and semantics of present-day American English, using various approaches to the analysis of grammar and usage.

ENGL 693 Seminar in Teaching English in the Secondary School 3 cr.
Explores recent developments in teaching of language, compositions, and literature.

ENGL 694 Observation in Teaching English 3 cr.
Surveys instruments to observe classroom teaching behavior and provides

practice in the use of observation instruments. Surveys research on classroom teaching and design. Emphasizes awareness of teaching behaviors and their consequences in English classrooms for native and non-native speakers of English.

ENGL 696 Internship in ESL/EFL 3 cr.
Consists of one semester of supervised teaching, tutorial activities, and materials preparation for non-native or limited English-speaking students. The purpose of the practicum is to demonstrate the candidate's preparation for teaching English as a second or foreign language. **Prerequisite:** Permission of the director of Graduate Studies in Rhetoric and Linguistics.

ENGL 698 Internship 3 cr.
Practical experience in the student's area of interest, working under professional supervision on the job. Special permission only, dependent upon needs of student's program as well as personal and academic qualifications.

ENGL 699 Independent Study 1-3 cr.
Study in depth of topics not available through regular course work. Student works with supervising professor on carefully planned, student-initiated project. Prior approval necessary.

ENGL 700 Introduction to Research 3 cr.
Introduces students to various types of research in Composition and TESOL for examining the transmission of literacy.

ENGL 703 Language and Cognition 3 cr.
Examines areas where language, thought, and cognitive process interact. Studies the essential nature of meaning and mental concepts, the core characteristics of language, and the complex relations between the two domains.

ENGL 705 Language and Social Context 3 cr.
Introduces the study of language as a social phenomenon, including such topics as language varieties, stereotypes, and social identity; language planning and language policy; standard and nonstandard usage; censorship; discourse analysis; language attitudes; language, culture, and thought; communicative competence; small group communication; and classroom interactions.

ENGL 708 Technology and Literacy 3 cr.
Presents an overview of the interrelationship between literacy and technology. Demonstrates approaches to teaching English using computer technology.

ENGL 715 Qualitative Research Methods in Rhetoric and Linguistics 3 cr.
Involves both reading about and training in qualitative research methods such as participant observation, interviewing, coding, and analysis. Also covers dissemination of research findings. **Prerequisites:** ENGL 700 and ENGL 730.

ENGL 723 Second Language Teaching 3 cr.
Considers trends, issues, and research in second language teaching and assessment, as well as considers ways teachers can explore teaching beliefs and practices. **Prerequisite:** ENGL 640

ENGL 724 Second Language Acquisition 3 cr.
Introduces current research in second language acquisition, especially of English. Focuses on prominent research trends in the study of the language learner, the process of acquisition, and the interaction of learner, language, and context.

ENGL 725 Second Language Literacy 3 cr.
Studies theory, research, and pedagogy associated with the development of literacy in two languages, either simultaneously or successively. Focuses on how individuals and groups become literate in English as an additional or second language. Includes explorations of political, cultural, social, contextual, as well as cognitive, textual, and educational issues that arise in acquiring and using a second literacy. Open to M.A./TESOL and Ph.D. students in Composition and TESOL.

ENGL 730 Teaching Writing 3 cr.
Studies characteristics of the writing process and of the basic writer, methods for the evaluation of writing, and approaches to the teaching of writing.

ENGL 731 Rhetorical Traditions 3 cr.
Studies how rhetorical traditions influence the teaching of composition. Examines how cultural factors such as history, politics, ideology, gender, race, and ethnicity affect the composing process. Encourages students to think of composition as an open, multicultural event of imagination and social innovation.

ENGL 732 Advanced Seminar in Composition Theory 3 cr.
Explores a single topic in depth. Topics, announced in advance, include such areas as approaches to the teaching of style, writing across the curriculum, the evaluation of composition instruction, the development of the writing process in

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children, computers in composition, writing in the professions, and discourse analysis. May be taken more than once. **Prerequisites:** ENGL 730 and ENGL 731.

ENGL 733 Theories of Composition 3 cr.
Reviews the major theories of composition, especially those of the modern and postmodern eras. Examines how cultural factors such as education, history, politics, ideology, gender, race, and ethnicity affect the theorizing about composition. Encourages students to construct their own theories of composition by entering into a collaborative cultural and intellectual process.

ENGL 742 Cross-Cultural Communication 3 cr.
Investigates cultural behaviors, assumptions, values, and conflicts surrounding communication across cultures in the context of teaching English as a second or foreign language at all levels.

ENGL 744 Reading Theory and the College English Teacher 3 cr.
Examines the psycholinguistic and ethnographic research on the fluent reading process of native and non-native college readers, as it pertains to the teaching of reading and writing for academic purposes.

ENGL 745 Theories of Literacy 3 cr.
Examines the status of current and past theories of literacy, including: the nature of literacy itself, the ways literacy is shared and used by individuals, families, and cultures; and the political, social, and personal ramifications of literacy.

ENGL 746 Advanced Seminar in Literacy 3 cr.
Explores a single topic in depth in the fields of Composition and TESOL. Topics are announced in advance and have recently included writing centers, computers in composition, alternative research methods, discourse analysis, and writing program administration. May be taken more than once. **Prerequisites:** Any one of ENGL 723, 724, 725, 730, 731, 733

ENGL 748 Advanced Topics in Linguistics 3 cr.
Focuses on a single topic in depth. Topics will be announced in advance and will include language history and change, writing systems, models of language, linguistic stylistics, narrative analysis, cross-linguistic patterns in syntax, language structure and use, and more. **Prerequisites:** ENGL 703 or ENGL 705

ENGL 751 The History and Theory of Criticism 3 cr.
Studies the founding texts of the Western tradition in ancient Greece beginning with Plato, Aristotle, and the sophists and places them in the historical context of significant cultural turns in literary, rhetorical, and cultural theory leading up to the present. As preparation for EN 752, this course examines key moments in the history of Western metaphysics in relation to contemporary concerns for theory, pedagogy, multiculturalism, and the changes in higher education, especially as they affect English studies.

ENGL 752 Literary Theory for the Teacher and Scholarly Writer 3 cr.
Focuses on contemporary literary and cultural theory, especially as it affects the teaching, scholarship, and curricular design of English studies, which has undergone significant changes in recent decades. Examines contemporary theoretical approaches such as New Criticism, post-structuralism, deconstruction, reader response, Marxism, New Historicism, cultural studies, feminism, postcolonialism, gay and lesbian theory, and others with a special emphasis on practice: how theory affects the classroom, the curriculum, and the writing of professional presentations and publications.

ENGL 760 Teaching College Literature 3 cr.
Examines current research on teaching college literature and involves ongoing observation and practice of teaching strategies. Special attention is given to the impact of critical theory and such issues as canon, race, class, and gender in specific classroom settings.

ENGL 761 Topics in American Literature Before 1870 3 cr.
Studies major figures, movements, or topics in American literature from the Colonial Period through 1870. The content of the course will be determined by the individual instructor and announced in advance.

ENGL 762 Topics in American Literature Since 1870 3 cr.
Studies major topics, authors, and movements in American literature from 1870 to the present. Specific course content is chosen by the instructor and announced in advance.

ENGL 763 Topics in British Literature Before 1660 3 cr.
Studies major figures, movements, or topics within the period. The specific content of the course is determined by the instructor and announced in advance.

ENGL 764 Topics in British Literature Since 1660 3 cr.
Studies major figures, movements, and topics in British literature within the

period 1660 to the present. Content of the course will be determined by the instructor and announced in advance.

ENGL 765 Topics in Literature as Genre 3 cr.
Examines one literary genre (such as novel, drama, or film), its development, and its current practice and theories. The course also surveys the major recent critical approaches to the genre.

ENGL 766 Topics in Comparative Literature 3 cr.
Introduces the theory and methods of comparative literary analysis. Topics include the relationships between literatures of different countries, between literary genres, and between literature and other related fields. The specific course content is chosen by the instructor and announced in advance.

ENGL 771 Topics in Postmodern Literature 3 cr.
Investigates the postmodern reaction to the modern literary tradition and the experimentation it engendered. Focuses on how postmodern critics and writers have responded to modernist manifestations of character, narrative, and theme and explores the critical, pedagogical, and philosophical implications and assumptions of postmodern literature, assessing its role in contemporary culture and thought.

ENGL 772 Topics in Women's Literature 3 cr.
Reexamines nineteenth-century works by women in light of feminist perspectives. Studies twentieth-century works within and outside feminine and feminist traditions. Also considers works by black, Chicano, Native American, and Asian-American women.

ENGL 773 Topics in American or British Minority Literature 3 cr.
Examines the literature of one or more American or British minorities (for example, Native Americans, immigrants, blacks, Chicanos). The focus and subject matter of the course will be chosen by the faculty member and announced in advance.

ENGL 781 Special Topics 3 cr.
Courses relating to specialized interests in TESOL, literature, rhetoric, criticism, or linguistics which fulfill special needs or interests. May become permanent course offerings.

ENGL 783 Seminar: Literary Theory Applied to Major American Author or Theme 3 cr.
Advanced, independent work in a seminar format. Emphasizes the production of a research paper of publishable quality. Specific content for the course—a major author or specific theme in American literature—will be chosen by the instructor.

ENGL 784 Seminar: Literary Theory Applied to British Author or Theme 3 cr.
Draws on knowledge and critical skills from core courses and traditional and special literature courses for advanced, independent work. Focus is on a single major author or well-defined theme in British literature chosen by the instructor. Each student conducts practice teaching and produces a research essay suitable for submission for publication or presentation at a conference.

ENGL 785 Seminar: Comparative Literary Theory Applied to Traditional and Special Literature 3 cr.
Explores and applies literary theory, criticism, and the theories and methods of comparative literature to traditional and special literatures. Students may expect to investigate, from various critical perspectives, conflicting social and literary values. The specific course content is chosen by the instructor and announced in advance.

ENGL 797 Independent Seminar 3 cr.
Selected readings and/or research in a specialized area of composition, criticism, and/or critical theory, literature, TESOL, linguistics, creative writing, cultural studies, literary translation, or literacy not normally covered by the curriculum in either track of the Ph.D. in English. In consultation with a designated faculty member in the semester prior to registration, a student submits a complete syllabus for study and assessment in one of the areas listed above. The syllabus must be approved first by the faculty member and then by the director of the appropriate graduate program. Course is delivered to individuals or small groups, either in residence or electronically, as determined by the instructor/program. May be repeated once with new content. **Prerequisite:** Permission of relevant program director(s) and instructor.

ENGL 799 Independent Study 1-3 cr.
An in-depth investigation of topic or area related to the student's doctoral program but not available through regular course work. Independent study is initiated by the student and supervised by a faculty member in the area of study. Prior approval by the director of the student's doctoral program is required.

ENGL 850 Thesis 1-6 cr.

ENGL 950 Dissertation 1-12 cr.

Note: Special Topics in Language and Literature and Major Writers, as well as seminars, may be scheduled more than once, because subject matter will change with each offering of the course. More complete course descriptions are available from the department.

FDDED: Foundations of Education

Department of Foundations of Education
College of Education and Educational Technology

FDED 514 Comparative Foundations of Education 3 cr.

Educational theories and practices in different nations will be studied. Educational purposes, curriculum, methods, administration, school systems, teacher education, and other educational features in America will be analyzed, evaluated, and compared.

FDED 515 Curriculum Development 3 cr.

Analysis of philosophical, sociological, and psychological basis for creation of curriculum patterns, K-12. Includes utilization of technological devices, critical examination of basic concepts underlying determination of objectives, selection and organization of subject matter, and learning experiences in general. Current curriculum research will be analyzed, as well as existing instructional materials and programs.

FDED 581 Special Topics 3 cr.

FDED 590 Improving Professional Practice in Instructional Settings 1-3 cr. and

FDED 591 Improving Professional Practice in Instructional Settings 1-3 cr. Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

FDED 595 International Education Studies Program 3 cr.

A travel-seminar conducted in a foreign country and designed to afford educators and students of education the opportunity to investigate teaching-learning process in cultural settings other than their own. Particular attention to such current educational issues as theories of curriculum development, methodology, teacher education, and changing value systems.

FDED 611 Historical Foundations of Education 3 cr.

Study of historical development of American education. European influences on philosophies and practices of American schools will serve as a background. Emphasis on development of education in America as influenced by various individuals and schools of thought. Historical trends will be related to current problems and practices in education.

FDED 612 Philosophical Foundations of Education 3 cr.

Analysis and evaluation of basic philosophies and their impact upon education. Nature, value, means, and ends of education and some other fundamental phases of schooling will be thoroughly examined. Stress on essentials enhancing an individual working philosophy of education and on basic ideas heightening a sound philosophy for American schools.

FDED 613 Social Foundations of Education 3 cr.

Social and cultural forces which influence education. Particular stress on current problems as they relate to entire educational systems and to curricular problems and practices in today's schools.

FDED 616 Professional Negotiations in Education 3 cr.

Study of dimensions of professional negotiations process in educational sector. Instructional tools will be case studies, lecture-discussion, and reading assignments. Guidelines of public policy affecting public employer-employee relations will also be evaluated and analyzed.

FDED 699 Independent Study 1-6 cr.

FDNT: Food and Nutrition

Department of Food and Nutrition
College of Health and Human Services

FDNT 510 Food, Nutrition, and Aging 3 cr.

How food relates to health maintenance and special dietary problems during the middle and later years. Nonmajors only.

FDNT 544 Food Composition and Biochemistry 3 cr.

Covers basic chemistry and biochemistry of essential components of food originating from plant and animal sources. **Prerequisite:** CHEM 355.

FDNT 547 Nutritional Aspects of Food Technology 3 cr.

Studies current known effects of food processing techniques on the nutritional value and safety of food. **Prerequisites:** FDNT 212 and BIOL 241.

FDNT 558 Advanced Human Nutrition 3 cr.

In-depth study of the nutrients and their functions within the cell. Incorporation of the principles of physiology and biochemistry in the study of nutrition. Emphasis on current research. **Prerequisites:** FDNT 212, CHEM 355, and BIOL 151.

FDNT 561 Microwave Cooking Technology 3 cr.

Examines the electronic technology, selection, care, and use of the microwave oven. Basic physical and chemical concepts related to microwave cooking are included. Individual research problem required. Two lectures two lab hours per week. **Prerequisite:** CHEM 101.

FDNT 562 Advanced Experimental Foods 3 cr.

An experimental approach to the many factors influencing the chemical and physical properties of food. Use of scientific method in developing an individual project combining an evaluation of current literature and appropriate sensory and analytical methodology. **Prerequisites:** FDNT 362 and CHEM 231.

FDNT 564 Food and Nutrition Research Methods 3 cr.

Introduction to research methodology in food and nutrition. Includes theory and techniques of physical, chemical, and instrumental analysis. Applications of these methods to food and animal models with statistical analysis of data. **Prerequisites:** FDNT 362, FDNT 458, CHEM 351, and MATH 217.

FDNT 612 Administration of Food Service Systems 3 cr.

Addresses food service as a system of interrelated parts and of controlling management resources. Analyzes of different types of food service delivery systems and covers legal responsibilities of a food service administrator. **Prerequisites:** FDNT 358, FDNT 259, FDNT 313, FDNT 356, or three years' work experience in a food service management position.

FDNT 641 Eating Behaviors and Food Habits 3 cr.

Investigation and analysis of historical, political, religious, ethnic, environmental, and social influences which affect food consumption patterns. **Prerequisites:** PSYC 101 and SOC 151.

FDNT 642 Contemporary Issues in Food and Nutrition 3 cr.

Current information in foods and nutrition is investigated, analyzed, and evaluated for practical implementation.

FDNT 645 Proteins, Carbohydrates, and Fats 3 cr.

Nutritional considerations of protein, carbohydrate, and fat metabolism. Physiological and biochemical functions of these nutrients will be discussed.

FDNT 646 Vitamins and Minerals 3 cr.

Biochemical role of vitamins and minerals in macronutrient metabolism. Focus on biochemical and physiologic functions and current research implications.

FDNT 698 Internship 1-6 cr.

Supervised work experience for food and nutrition majors. **Permission:** Department chairperson.

FDNT 711 Nutrition in the Life Cycle 3 cr.

Studies bodily functions at different stages of development under different environmental conditions and at various levels of biological organization.

FDNT 713 Seminar in Food and Nutrition 1 cr.

Preparation and presentation of written scientific reports and/or current departmental research. Course to be taken twice. **Prerequisites:** GSRI 615, GSRI 516, and two courses from the department requirement.

FDNT 743 Clinical Dietetics 3 cr.
Examines nutritional management of the hospitalized patient with emphasis on the role of the dietitian. Research for a paper and oral critiques of current literature.

FDNT 799 Independent Study in Food and Nutrition 1-3 cr.
Prerequisites: Completion of two courses in the department requirement. Advanced study and/or selected research problems from the field of food and nutrition. May be taken for a maximum of three credits.

FDNT 850 Thesis 1-4 cr.

FIN: Finance

Department of Finance and Legal Studies
Eberly College of Business and Information Technology

FIN 510 Financial Institutions and Markets 3 cr.
Review of entire structure of financial institutions, money and capital markets (of which the business enterprise is both a supply and demand factor) and the structure and dynamics of interest-rate movements. **Prerequisites:** ECON 325, FIN 324, or permission of Eberly College of Business and Information Technology graduate coordinator.

FIN 520 Investment Analysis 3 cr.
Integrates the work of various courses in the finance areas and familiarizes the student with the tools and techniques of research in the different areas of investments. **Prerequisites:** ACCT 301, FIN 310, FIN 324, or permission of Eberly College of Business and Information Technology graduate coordinator.

FIN 524 International Financial Management 3 cr.
Provides an insight into the unique issues and problems that the manager of the multinational enterprise will face, such as working capital management; capital budgeting process; financing and investing abroad; capital and money markets; foreign exchange markets; and risk management. **Prerequisite:** FIN 310 or equivalent

FIN 581 Special Topics in Finance 3 cr.
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary depending upon the interests of instructor and students with instructor choosing specific topics. May be repeated by specific approval. **Prerequisite:** Permission of instructor and Eberly College of Business and Information Technology graduate coordinator.

FIN 630 Financial Management 3 cr.
An extension of basic managerial finance, dealing with theory and practice of analyzing companies, financial planning, capital budgeting, management of working capital, and obtaining funds for the corporation. **Prerequisite:** FIN 310.

FIN 632 Seminar in Finance 3 cr.
Covers topics in all areas of finance by using recent articles, cases, discussions, speakers, and a finance simulation game. Designed to bring together all aspects of finance. **Prerequisite:** FIN 630.

FIN 635 Principles of Investments in Securities 3 cr.
Introduces many forms of existing investment policies. Attention is given to operation of stock markets, concepts and terminology of investing, mutual funds and their function, investment clubs, and problems involved in making investments through brokers, bankers, and stock promoters. **Prerequisite:** FIN 630.

FIN 681 Special Topics in Finance 3 cr.
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary, depending upon the interests of instructor and students, with instructor choosing specific topics. May be repeated by specific approval. **Prerequisite:** Permission of the instructor and the Eberly College of Business and Information Technology graduate coordinator.

FIN 699 Independent Study in Finance 1-3 cr.
Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of a senior faculty member. **Prerequisite:** Consent of instructor, departmental chairperson, and Eberly College of Business and Information Technology dean.

FIN 850 Thesis 4-6 cr.
For students writing a thesis, FIN 850 should be scheduled for the semester in which the student plans to complete his/her work. The thesis is a committee thesis (4-6 cr.), for which the student's advisor, two additional faculty members, the Eberly College of Business and Information Technology graduate coordinator,

and/or the representative of the dean of the Eberly College of Business and Information Technology may constitute the committee.

GEOG: Geography

Department of Geography and Regional Planning
College of Humanities and Social Sciences

GEOG 511 History of Geography 3 cr.
History of the discipline, great ideas, leading professionals, and unresolved issues are studied.

GEOG 513 Cartography 3 cr.
Develops ability to map and diagram human and environmental phenomena. Special maps, charts, and diagrams will be considered as required by students. Recommended for all master's candidates.

GEOG 514 Map and Photograph Interpretation 3 cr.
Develops skill in extracting information and synthesizing data from maps and aerial photographs as applied to geologic, land use, planning, and terrain analysis problems.

GEOG 515 Remote Sensing 3 cr.
Methods of remote sensing such as thermal sensing, multispectral scanning, satellite imagery, side-looking airborne radar imagery, and additive color analysis and their applications, particularly as applied to geographic and planning problems, are studied.

GEOG 516 Introduction to Geographic Information Systems 3 cr.
Automated methods for creating, maintaining, and analyzing spatial data are presented. Topics include 1) specialized GIS hardware and software, 2) vector vs. raster vs. object-oriented spatial data structures, 3) creation and manipulation of geographic data files, 4) database design and management concepts, 5) spatial analysis, and 6) cartographic design. **Prerequisite:** GEOG 513 or equivalent or permission of instructor.

GEOG 517 Technical Issues in GIS 3 cr.
A project-based class where students learn the skills to develop and maintain a Geographic Information System. Students will construct functional systems. Designing GIS systems to use specification data collection, data input, project management, and system documentation are covered. **Prerequisite:** GEOG 516.

GEOG 531 Population Geography 3 cr.
Spatial variations in numbers, characteristics and dynamics of human population, models, and theoretical constructs relevant to demographic structures and processes are studied.

GEOG 532 Urban Geography 3 cr.
Analysis of city types, patterns, and functions as influenced by geographic conditions and other factors. City planning techniques and field study are utilized.

GEOG 533 Geography of Transportation and Trade 3 cr.
Transportation systems and their use: accessibility, circulation, time and distance concepts, and trade patterns. Empirical and theoretical approaches are examined.

GEOG 534 Political Geography 3 cr.
Geographic factors and conditions are analyzed as they relate to character and function of states. Political institutions in light of geographic conditions.

GEOG 536 Social Geography 3 cr.
Spatial dimensions of the American society are the focus of this course. The distribution of various social groups and their impact on the landscape are considered.

GEOG 540 Conservation: Environmental Analysis 3 cr.
Problems of exploitation and utilization of regional resources, (e.g., soils, minerals, forests, and wildlife) in relation to population growth and regional planning and development.

GEOG 541 Climatology 3 cr.
Examines the elements of weather and climate on Earth. The location and causes of global climatic regions are examined in relation to moving pressure and wind systems. The course also considers the climatic history of the planet and recent human modifications of the atmospheric environment.

GEOG 542 Physiography 3 cr.
Focuses on landform types and their spatial distribution. Emphasis is placed on the tectonic forces that build landforms and the weathering and erosional

processes that erode and shape surface features. The relationship between human activities and landforms is also considered.

GEOG 543 Geography of Fresh Water Resources 3 cr.
Learn about surface and groundwater as a resource with unique properties. Fresh water is defined physically by storage in the hydrologic cycle and the values assigned by different cultures. Problems featured relate to consumptive and withdrawal water uses, the problems of water supply and scarcity, water law and its inconsistencies, flooding and floodplains management, sources of contamination and pollution, wetlands, and case studies of selected river basins.

GEOG 550 Introduction to Planning 3 cr.
Introduction to the profession and activity of contemporary American urban and regional planning. Course emphasis is placed on land use control, design, growth management, and development regulation. The legal and institutional bases of planning practice are covered as well.

GEOG 552 Planning Methods 3 cr.
Research, analytical design, and plan-making techniques in urban and regional planning. Examines basic items necessary to prepare urban and regional comprehensive plans.

GEOG 554 Planning Design 3 cr.
Presents concepts of city, subdivision, and transportation design in relation to topography, natural resources, and other physical elements. **Prerequisite:** GEOG 550.

GEOG 558 Land Use Law 3 cr.
Introduces students to principles of land use law. The course focus is on federal constitutional principles and key Supreme Court cases, especially as they relate to actions of local units of government and municipal planning practice. Deals with the present state of land use law and with current trends and issues.
Prerequisite: GEOG 550 or GEOG 564.

GEOG 564 Land Use Policy 3 cr.
Introduces students to and provides an overview of land use issues at the regional, state, and federal levels. Emphasizes evolution of contemporary policy strategies, constitutional issues, and regional controversies involved in the regulation of metropolitan growth, central city decline, and management of public lands.

GEOG 568 Planning Theory 3 cr.
Examines process of city planning during ancient, medieval, Renaissance, and modern periods. A review of early planning in America, as well as present city planning, is included. **Prerequisite:** GEOG 550

GEOG 571 Aerospace Workshop 3 cr.
Develops an appreciation and provides information related to aerospace activities and contributions; offers background for teaching aerospace courses; discusses aviation space careers; and presents the basic principles of flying (usually including some flight instruction). Offered summer only.

GEOG 581 Special Topics 3 cr.
Topical courses offered on an experimental basis. Check department schedule for these offerings.

GEOG 610 Research in Geography and Regional Planning 3 cr.
Elements and techniques of scientific research, as applied to geographic and planning problems, are studied. A research proposal is developed.

GEOG 612 Quantitative Techniques in Geography and Regional Planning 3 cr.
Descriptive and inferential statistical techniques applied to spatial distribution and spatial association of physical and cultural phenomena and testing of spatial theoretical constructs.

GEOG 614 Thought and Philosophy in Geography and Regional Planning 3 cr.
Examines the status of current and past thought and philosophy in geography and regional planning, using the literature in planning, geography, and the philosophy of science. Topics examined are regional development, local planning, environmentalism and physical geography, and cultural geography. **Prerequisite:** GEOG 610.

GEOG 617 Field Techniques in Geography and Planning 3 cr.
Field tools and techniques are evaluated and used in the study of a specific area. Interpretation of spatial patterns of phenomena is emphasized.

GEOG 618 GIS Applications Development 3 cr.
Takes students with GIS analysis skills to the next level; developer of software to

automate methods and processes learned in prerequisite courses. Students will learn to write object-oriented software tools for spatial data transaction processing and analysis. **Prerequisite:** GEOG 516.

GEOG 620 Spatial Structure of the Economy 3 cr.
The spatial organization of economic systems is studied. Processes that give rise to these systems and their spatial interdependencies are explored. Topical and regional examples of spatial structure are used as case studies.

GEOG 623 Regional Development 3 cr.
Theory and policy implications of the spatial aspects of development in various regions of underdevelopment.

GEOG 625 Environmental Planning 3 cr.
Provides students with information about natural resources, their characteristics, and various techniques that can be implemented for their preservation, conservation, and management. In particular, emphasis will be placed on human-environment interaction and how aspects of the environment can and should be accounted for in planning processes at various spatial scales and levels of analysis. Course material will be presented through lectures, as well as guest speakers, field trips, and student presentations.

GEOG 630 Cultural Geography 3 cr.
Literature and methods of cultural geography. Topics include population, settlements, human ecology, culture areas, and related features.

GEOG 633 Settlement Geography 3 cr.
Settlement patterns and processes: origins, diffusion, classification, pioneer, settlement planning, and agricultural colonization.

GEOG 650 Regional Geography 3 cr.
Various regions of the world may be dealt with, such as Latin America, Africa, or South Asia, when there is sufficient student demand. Physical, environmental, cultural, and population patterns are considered.

GEOG 665 Plan Implementation 3 cr.
Considers zoning, improvement programs, housing codes, building codes, methodology and application of administrative procedures, federal and local urban renewal programs, site selection, and program administration.
Prerequisite: GEOG 550.

GEOG 670 Professional Problems in Geographic Education 3 cr.
Classroom problems and discussion centered about new viewpoints in geography. Individual reports, group discussion, and research included.

GEOG 680 Seminar 3-6 cr.
Seminars on various topics will be offered occasionally. Topics such as new trends in planning, cartographic theory, or spatial aspects of service industries are the focus of research projects.

GEOG 681 Special Topics 3 cr.
Topical courses offered on an experimental basis. Check department schedule for these offerings.

GEOG 698 Internship 3-12 cr.
Professional learning experience with emphasis on practical applications of academic background. **Prerequisites:** Twelve academic credits and a 3.00 cumulative GPA.

GEOG 699 Independent Study 1-6 cr.
Independent research and study under faculty direction. Interested students should apply to director of graduate studies.

GEOG 850 Thesis 3-6 cr.
Registration for thesis must be approved by the department's graduate coordinator and chairperson ahead of time.

GEOG: Geoscience

Department of Geoscience

College of Natural Sciences and Mathematics

GEOG 511 Sedimentary Petrology 3 cr.
Determination and interpretation of grain size parameters; an introduction to clays and clay mineralogy; hand lens and petrographic microscope study of marine phosphonates, carbonates, siliceous sediments, heavy minerals, and sandstones with emphasis on interpreting ancient depositional environments.
Prerequisite: GEOG 321.

GEOG 512 Stratigraphy 3 cr.
Study of layered rocks with emphasis on the guiding principles of stratigraphy.

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the evaluation of unconformities, the principles and problems of correlation, and selected stratigraphy problems. **Prerequisite:** GEOS 411.

GEOS 522 Igneous and Metamorphic Petrology 3 cr.
Study of rock types and their chemical and spatial relationships in the earth. Special attention to the genesis, mineral composition, and classification of rock types. Ecology of igneous, sedimentary, and metamorphic rocks is studied in detail. **Prerequisite:** GEOS 321.

GEOS 526 Structural Field Geology 3 cr.
Includes techniques of geologic field work, such as measuring sections, use of aerial photographs, and a field project involving compilation of a geologic map, cross sections, and geologic report. **Prerequisite:** GEOS 325.

GEOS 527 Geomorphology 3 cr.
Landforms and the processes and principles that govern both their origin and their subsequent development. **Prerequisite:** GEOS 325.

GEOS 530 Paleontology 3 cr.
A morphological study of major invertebrate life forms of geologic past and their distribution in space and time. **Prerequisite:** GEOS 131 or BIOL 120.

GEOS 536 Geology of the Northern Rockies 3 cr.
A field study of the major geologic features and relationships involved in the development of the northern Rocky Mountains. National Park and Monument areas of South Dakota, Wyoming, and Montana are included among the areas investigated. **Prerequisite:** Permission of the instructor.

GEOS 540 Petroleum Geology 3 cr.
An introduction to the geology of petroleum, its origin, migration, entrapment, and production. The laboratory is designed to provide practical experience in subsurface mapping techniques and the use and evaluation of geophysical logging devices. **Prerequisite:** Minimum 20 credit hours of Geology.

GEOS 541 The Solar System 3 cr.
Characteristics and behavior of planets and their satellites, asteroids, meteors, comets, and other phenomena of the solar system. One of the major topics will investigate and criticize several of the theories of origin. Will require some treatment of celestial mechanics.

GEOS 542 The Sidereal Universe 3 cr.
Characteristics and classification of the stars, their assemblage groups and galaxies, and their evolution. Techniques of gathering data are examined to gain an understanding of the role of the telescope, spectroscope, and photometer in astronomical research. Lab exercises and night observations are part of the course. Credit will be given only to those for whom the course represents an area of study for which credit has not previously been recorded. **Prerequisites:** MATH 121 and PHYS 111.

GEOS 543 Carbonate Geology of Florida 3 cr.
Two weeks of field study in the Florida Keys. Will be conducted from base camp in Florida Keys and consist of both land and water work as the different carbonate environments in the Keys, Florida Bay, and the Atlantic reef tract are studied.

GEOS 550 Operation of the Planetarium 1-2 cr.
Designed to acquaint student with the operation and use of the Spitz Planetarium. A satisfactory instructional program or show for a public group will demonstrate accomplishment of course objectives. **Prerequisite:** GEOS 110 or GEOS 341 or GEOS 342.

GEOS 561 Physical Oceanography 3 cr.
Introduction to physical, chemical, geological, and biological nature of ocean; topography, submarine geology, and bottom deposits. **Prerequisites:** PHYS 111 and MATH 121.

GEOS 562 Marine Geology and Plate Tectonics 3 cr.
A continuation of physical oceanography. Emphasis upon marine geology, coastal geomorphology, and structure and sedimentary environments of the continental shelf, slope, and ocean basin. **Prerequisites:** PHYS 111, PHYS 112, and Geology courses.

GEOS 571 Meteorology I 3-6 cr.
Basic and advanced consideration of physical processes to the atmosphere. Lectures, readings, term paper, lab. **Prerequisite:** One year of Physical Science or Physics GEOS 581.

GEOS 681 Special Topics 1-3 cr.
As student demand and circumstances may dictate, special graduate courses may be offered by any member of the Geoscience graduate faculty.

GEOS 699 Independent Study 1-3 cr.
Independent research under faculty direction.

GSR: Graduate General Service

The School of Graduate Studies and Research

GSR 516 Statistical Methods I 3 cr.
Measurement and statistical techniques as used in administration and educational research. Basic descriptive statistics, including measures of central tendency, variability, and correlation are developed. Reliability and validity of test scores with emphasis on use of statistical techniques are studied, along with their interpretation.

GSR 517 Statistical Methods II 3 cr.
Using computer programs, a wide array of statistical procedures for research workers are explored. Basic concepts of statistical inference and prediction are reviewed, including regression analysis and prediction, hypothesis testing, analysis of variance and covariance, and partial and multiple correlation. Emphasis is placed on use of computers and interpretation of computer printouts along with understanding techniques employed. No computer knowledge is necessary. **Prerequisite:** GSR 516 or equivalent.

GSR 615 Elements of Research 3 cr.
Selection of a research problem, data collection, types of research, research reports, and use of the library and computer in connection with research problems are studied. Elements of statistics are introduced. This course provides background for preparation of the thesis and enables the student to become an intelligent consumer of products of academic research.

GSR 681 Special Topics 1-3 cr.
Group study of course material not offered in other graduate courses. **Prerequisite:** May not be scheduled without prior written approval of the dean of the School of Graduate Studies and Research.

GSR 699 Independent Study 1-3 cr.
Individualized in-depth study of an approved topic directed by a participating faculty member and approved administratively. **Prerequisite:** May not be scheduled without prior written approval of the dean of the School of Graduate Studies and Research.

HIST: History

Department of History
College of Humanities and Social Sciences

HIST 501 History of Ancient Greece 3 cr.
Analyzes major political, social, economic, and cultural developments in ancient Greek civilization from the Bronze Age to the death of Alexander.

HIST 502 History of Ancient Rome 3 cr.
Traces Roman history from early Republic to fall of Empire. A study of a civilization from its inception to its collapse.

HIST 503 Medieval Europe I, 400-1000 3 cr.
History of early Medieval Europe, from decline of Rome to beginnings of High Middle Ages; emphasis on political, social, economic, religious, and intellectual developments.

HIST 504 Medieval Europe II, 1000-1350 3 cr.
History of late Medieval Europe, from High Middle Ages to Renaissance period; emphasis on political, social, economic, religious, and intellectual developments.

HIST 505 Renaissance and Reformation 3 cr.
History of Europe from ca. 1250: rise of commercial city, kings, and pressures on the Christian Church to 1600. Some consideration of technology and voyages.

HIST 506 Early Modern Europe 3 cr.
Greatness of France under Louis XIV; Sweden; Thirty Years' War; emergence of modern society; French Revolution.

HIST 507 History of Europe, 1815-1914 3 cr.
Study of Europe in nineteenth century, with emphasis on the emergence of major thought patterns, Romanticism, Socialism, and Positivism.

HIST 508 Twentieth-Century Europe 3 cr.
Political, economic, and diplomatic trends of Europe since 1900, with major emphasis on causes and results of war and search for security.

HIST 511 Rise and Fall of Hitler's Empire 3 cr.
In-depth study of Hitler and the Nazi Order: offers an analysis of nineteenth-century origins of Nazi ideology and intensively analyzes domestic and foreign policy (1920-1945), including Holocaust, Resistance, and the postwar Nuremberg Trials.

HIST 520 History of England to 1688 3 cr.
Survey of growth of English nation, with emphasis on political, social, and economic developments leading to seventeenth-century conflict between Crown and Parliament.

HIST 521 History of England, 1688-Present 3 cr.
Survey of growth of England as a democratic constitutional monarchy. Attention directed to colonial America and English-U.S. relations, as well as to imperial expansion and England's role in the twentieth-century world. Cultural history is included.

HIST 522 French Revolution and Napoleonn 3 cr.
Development of the Grand Monarchy, brief sketch of Old Regime, concentration on the Revolution and Empire, with emphasis on politics, diplomacy, and economics. Readings and brief papers.

HIST 526 History of Russia 3 cr.
General survey of Russian history, culture, and institutions. Special consideration given to study of historical forces formative of revolution in 1917.

HIST 527 History of Soviet Russia 3 cr.
General survey of contemporary Soviet history, culture, and institutions. Special emphasis given to study of communist theory and its place in current Russian historiography.

HIST 530 History of Islamic Civilization 3 cr.
An approach to learning about non-Western culture: Mohammed, Arabs, Muslims as creators to a great civilization from the rise of Islam to 1800; emphasis on cultural institutions and their interrelationships within the Middle East.

HIST 531 Modern Middle East 3 cr.
Survey of changes that have taken place in the Middle East and in Islam since eighteenth century and of contemporary problems in that region.

HIST 540 Colonial America 3 cr.
Survey of original thirteen states from their inception within the British Empire to 1763, the eve of independence. Attention given to their political development, economic position within the empire, relations with Indians, and evolution of their social, educational, and religious lives.

HIST 541 The American Revolution 3 cr.
Study of United States history from beginnings of revolutionary crisis in 1763 through adoption of the Constitution and the administration of John Adams. Special emphasis is given to the causes and civil war aspects of the revolution and the constitutional-political development of the new nation.

HIST 542 The Early Republic 3 cr.
Survey of United States history from 1783 to 1850, with special attention to constitutional, political, and social trends.

HIST 543 Civil War and Reconstruction 3 cr.
Study of failure of American democracy to cope with issues of mid-nineteenth century, followed by political, economic, military, and social developments during war and reconciliation of North and South.

HIST 550 History of Latin America: Colonial Period, 1450-1820 3 cr.
Study of life of people, Indian cultures, conquest by Spaniards and Portuguese, government during Colonial Period, and Wars of Independence.

HIST 551 History of Latin America: National Period, 1820-Present 3 cr.
Study of history of nations which have emerged since independence; emphasis on economic, political, cultural, and social developments of these nations, as well as relations of these nations to others in the hemisphere.

HIST 560 History of Pennsylvania 3 cr.
Emphasizes the cultural, economic, political, and social development of our state in various periods from colonial to today. Special attention given to diversity of Pennsylvania's people and their institutions and problems.

HIST 563 Thought and Culture in Early America 3 cr.
Selected topics in early American intellectual and cultural growth, with emphasis on Puritanism, Enlightenment, Cultural Nationalism, and Romantic Movement.

HIST 564 Thought and Culture in Modern America 3 cr.
Selected treatment of historical development of modern American movements in social and political thought, religion, philosophy, fine arts, and literature.

HIST 565 History of Black America Since Emancipation 3 cr.
Description and analysis of role of blacks in history of the United States since the Civil War; emphasis on key leaders, major organizations, leading movements, and crucial ideologies of blacks in modern America.

HIST 567 Native American History 3 cr.
An unfamiliar perspective on a familiar tale. Presents the "new Indian History"—North America from Native American materials and points of view. Identification, analysis, and synthesis of Indian realities and options over time are at the heart of this course.

HIST 569 Women in America 3 cr.
Surveys of religious, legal, political, social, and popular culture perspectives of womanhood in America from colonial times to present.

HIST 572 History of the Early American Working Class 3 cr.
Description and analysis of nature and significance of the U.S. working class in eighteenth and nineteenth centuries. Work settings and communities of workers will be examined as well as unions such as the National Labor Union and Knights of Labor.

HIST 573 History of the Modern American Working Class 3 cr.
Description and analysis of the nature and significance of the U.S. working class in the twentieth century. Work settings and strikes will be examined and analyzed, as well as unions such as the United Mine Workers and United Auto Workers and leaders including Samuel Gompers, John L. Lewis, and George Meany.

HIST 581 Special Topics in History 3 cr.
Each semester, courses are offered in interest areas which are not part of the regular course offerings.

HIST 591 Film as History 3 cr.
This course deals with the cinema as social, cultural, and intellectual history from its origins to the present day.

HIST 600 Readings in History 3-6 cr.
Directed readings of historical materials, focused on a general topic.

HIST 601 History Seminar 3-6 cr.
Area research, culminating in a formal paper.

HIST 605 Introduction to Public History 3 cr.
Introduces wide range of activities in which public historians engage. Explores theoretical and practical issues associated with historic preservation, historical editing, oral history, the management of archival and manuscript collections, and a variety of other public history activities. Also considers broader conceptual issues associated with the concept of public history.

HIST 606 Topics in Public History 3 cr.
Focuses on one specific field of public history activity (field varies from semester to semester). Extensive reading in the literature of that field and completion of an appropriate project or paper. **Prerequisite:** HIST 605

HIST 614 Research Methods 3 cr.
Investigation of library systems, reference works, bibliographies, how to compile a bibliography, organizing research, use of statistics, style systems in printing.

HIST 698 History Internship 1-6 cr.
With departmental approval, students are attached to local or national government or private agencies doing directive, bibliography, archival, or museum work. Advising professor meets with intern regularly and determines what papers or reports will be required.

HIST 699 Independent Study 3 cr.
Student selects topic for individual study with an instructor.

HIST 850 Thesis 3-6 cr.

HMSV: Human Services

Department of Sociology
College of Humanities and Social Sciences

HMSV 601 Analysis of Social Data 3 cr.

Covers fundamental concepts in social research and the role of statistics in describing distributions of characteristics in a population and analyzing quantitative relations between variables: basic univariate descriptive and inferential statistics; bivariate correlation, regression, and discrete measures of association; analysis of variance and the foundations of multiple regression. The course emphasizes both statistical problem solving using human services examples and the use of SPSS and/or other relevant software to describe and analyze data.

HMSV 701 Leadership Theories 3 cr.

Focuses on several leadership theories related to administering social agencies, schools, business, and industry.

HMSV 702 Leadership: A Case Study Approach 3 cr.

Acquaints students with the theory and application of the case study approach as related to theories of leadership. Designed to provide practice for future administrators in the following areas: group decision making, leadership, planning and organizing, sensitivity, judgment, and communication skills.

Prerequisites: For approved Administration and Leadership Studies candidates; in addition, HMSV 701 or permission of the instructor.

HMSV 703 Leadership: Applied Practice 3 cr.

Students must develop and implement a field project that incorporates leadership and policy theories learned in previous courses. **Prerequisites:** For approved Administration and Leadership Studies candidates; in addition, HMSV 701 and HMSV 702 or permission of the instructor.

HMSV 798 Field Experience in Administration and Leadership Studies 3-6 cr.

Provides the student with an opportunity to solve a practical problem associated with the leadership and administration of an organization. During the third summer of the doctoral program, each student will be required to undertake a policy/problem analysis process that integrates prior substantive and analytically oriented course work. Each student will present and discuss his/her work before a faculty review committee. Students with full-time employment responsibilities will be permitted to focus on a problem related to their own organization, if it is compatible with the student's area of concentration or interest. Alternatively, if the student wants to explore another area or organization, he/she may do so. This course may only be taken after a minimum of 36 hours of course work for the Administration and Leadership Studies program (Human Services Track) is completed.

HMSV 950 Dissertation 9 cr.

HPED: Health and Physical Education

Department of Health and Physical Education
College of Health and Human Services

HPED 510 Exercise Prescription 3 cr.

Teaches individuals to write exercise prescriptions based upon a subject's tolerance for physical activity. Special emphasis will be given to risk factors, techniques of evaluation, drugs, injuries, environmental factors, and motivation with respect to their role in physical activity assessment. In-depth experiences working with qualified medical personnel will be provided. **Prerequisite:** HPED 343.

HPED 512 Physical Activity and Stress Management 3 cr.

Acquisition of necessary understandings of anxiety and stress with respect to the nature, the place they hold in our society, and the intervention strategies related to physical activity. A paper relating the utilization of these techniques is required.

HPED 513 Physical Activity and Aging 3 cr.

Presents the major aspects of physical activity, its importance to the older adult, and the organization of an activity program. Specific attention will be given to the physiology of activity, effects of activity on growth and aging, exercise prescription, flexibility, overweight and obesity, and motivational strategies. A paper is required that deals with analysis of problems of the aged as observed from visitations to nursing homes, senior citizens' organizations, and social service agencies.

HPED 550 Curriculum and Programming in Sexuality Education 3 cr.

Designed to provide and share information that will be helpful to current and

future school personnel in developing sexuality education programs in their schools and local communities.

HPED 600 History of Philosophy of Sport 3 cr.

A functional approach to an understanding of sport and human movement during the course of civilization with emphasis on formation of a constructive philosophical approach to present-day problems.

HPED 601 Sport and Society 3 cr.

Designed to acquaint the student with the reciprocal relationships between sport and physical activity as it affects human development in the societies and cultures out of which sport emerges.

HPED 602 Sport Psychology 3 cr.

Study of the psychological effects and implications of participation in sport and physical activity. Emphasis on personality and motivational dynamics as they relate to sport involvement in human behavior.

HPED 603 Physiological Basis of Sport 3 cr.

An examination of the physiological factors that influence performance in sport with emphasis on the analysis of various training techniques.

HPED 620 Exercise Prescription for Chronic Diseases 3 cr.

Examines the medical and therapeutic considerations for exercise prescriptions as defined by the American College of Sports Medicine, for individuals with chronic medical disorders. Competencies needed to function as clinical exercise specialist will be emphasized. **Prerequisite:** Permission.

HPED 632 Assessment of Human Physiological Functions 3 cr.

Study of various physical fitness components and their contribution to a person's well-being and how to measure and evaluate physical fitness.

HPED 634 Current Literature in Sport 3 cr.

Review of current literature in physical education and sport. Requires the submission of an article for publication.

HPED 635 Sport Management 3 cr.

Theory and practice of human management with applications to sport; formal structure of organizations, goal setting, organizational personality, group processes, and leadership styles.

HPED 637 Sport Facilities Management 3 cr.

An administrative and management course designed to prepare sport managers to develop and operate competitive, recreational, instructional, therapeutic, and multifaceted sport complexes. Course work includes planning, design, construction, budgeting, programming, staffing, equipping, administration, maintenance, safety, and rehabilitation. Three lecture hours.

HPED 641 Organization and Administration of Aquatic Programs 3 cr.

Examines the organizational procedures, administrative techniques, and practices employed in aquatics with special emphasis on adapted, competitive, instructional, recreational, social, and water safety programs.

HPED 642 Design and Operation of Aquatic Facilities 3 cr.

Elements and principles of planning, design, and operation of swimming pools, waterfront facilities, and related equipment necessary for the aquatic administrator.

HPED 650 Wellness: A Classroom Approach 3 cr.

Designed to provide classroom teachers and educational specialists with knowledge, skills, and management capabilities to plan, implement, and evaluate personal, classroom, and school health promotion and wellness programs. The intent of this course is to educate teachers to promote health and wellness needs of children and youth.

HPED 672 Epidemiology of Physical Activity 3 cr.

Introduces the student to the principles of epidemiology and the specific relationship between physical activity and chronic disease. Exercise-based public health initiatives and health promotion programming are emphasized.

HPED 680 Seminar 3 cr.

Specific subjects will be considered through readings, reports, discussions, and guest presenters. A paper will be required. A specific title will be listed in the schedule of classes. May be repeated.

HPED 681 Special Topics 3 cr.**HPED 698 Internship** 3-6 cr.

Prospectus must be presented by student. Objective is to provide an in-depth experience in an area of interest to the student under the guidance of a faculty

member and a cooperating supervisor. **Prerequisite:** Faculty approval.

HPED 699 Independent Study 1-3 cr.
Students may study intensively a subject of their interest under the guidance of a faculty member with the appropriate expertise. Prospectus must be presented by the student. **Prerequisite:** Approval of faculty member, department chairperson, college dean, and associate provost.

HPED 850 Thesis 3-6 cr.

IFMG: Information Management

Department of Management Information Systems and
Decision Sciences
Eberly College of Business and Information Technology

IFMG 550 Database Theory and Application 3 cr.
The analysis of data structures and database management systems and their implementation in COBOL. **Prerequisite:** COSC 220 or IFMG 255, and IFMG 350.

IFMG 551 Systems Analysis 3 cr.
Develops understanding of concepts and techniques, involving conventional and structured approaches to analyzing problems of business information systems and systems definition feasibility, as well as quantitative and evaluative techniques of business information systems analysis. **Prerequisite:** IFMG 255 or COSC 220.

IFMG 570 Systems Design 3 cr.
Students learn tools and techniques for design of a business system. Along with classroom discussions of principles and techniques for analyzing, designing, and constructing the system, students will formulate system teams to analyze the problems of an existing business information system, to design an improved system, and to control implementation of new system. **Prerequisites:** IFMG 451/551, IFMG 450/550.

IFMG 580 Distributed Business Information Systems 3 cr.
Study of the techniques involved in planning, design, and implementation of distributed processing systems. Distributed marketing, financial, and corporate accounting systems are included. **Prerequisite:** IFMG 451/551 or by instructor's permission.

IFMG 581 Special Topics in Management Information Systems 3 cr.
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary, depending upon the interests of instructor and student, with instructor choosing specific topics. May be repeated by specific approval. **Prerequisite:** Permission of instructor and Eberly College of Business and Information Technology graduate coordinator.

IFMG 640 Management Information Systems 3 cr.
Introduces MIS concepts and theories to the graduate student. Deals with information processing and communication as they relate to the development and design of effective business applications. Computer system hardware, software, and database management concepts are discussed in terms of the integration of specific business subsystems into a comprehensible organizational management information system. Managerial involvement in the planning, utilization, and control of information systems is emphasized. **Prerequisite:** IFMG 300.

IFMG 641 Business Data Processing I 3 cr.
Covers the concepts of developing graphical user interfaces (GUIs) for Windows applications. Features the Visual Basic language for the development of applications involving the access and display of data. Not open for students with credit for IFMG 451/551.

IFMG 642 Business Data Processing II 3 cr.
Develops the principles of the COBOL. Concepts relating to structured programming, object-orientated programming, file organization, and report generation are stressed. **Prerequisite:** IFMG 641 or equivalent. Not open for students with credit for IFMG 470/570.

IFMG 681 Special Topics in Management Information Systems 3 cr.
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary, depending upon the interests of instructor and students with instructor choosing specific topics. May be repeated by specific approval. **Prerequisite:** Permission of the instructor and the Eberly College of Business and Information Technology graduate coordinator.

IFMG 699 Independent Study in Management Information Systems 1-3 cr.
Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of a senior faculty member.

Prerequisite: Consent of instructor, departmental chairperson, and Eberly College of Business and Information Technology dean.

ILR: Industrial and Labor Relations

Department of Industrial and Labor Relations
College of Health and Human Services

ILR 526 Case Studies in Labor-Management Relations 3 cr.
Study of labor-management relationships in a variety of organizational settings through utilization of the case study technique.

ILR 581 Special Topics in Industrial and Labor Relations 3 cr.
According to student demand, special graduate course on selected topics.

ILR 610 Employee Rights Under Law 3 cr.
A review of the legislated rights and benefits of employees in terms of their impact on labor and management in the collective bargaining process.

ILR 611 Development and Theories of the Labor Movement 3 cr.
Institutional and theoretical overview of the development of the American labor movement with special emphasis on major labor movement theorists. (Alternative: HIST 566)

ILR 612 Labor Relations Practice and Administration 3 cr.
Practice and administration of labor relations focusing on the operation and internal relationships of the individuals involved and upon the application of labor relations skills.

ILR 613 Fundamentals of American Industrial and Labor Relations 3 cr.
Introduction to terms, theories, and practice of industrial and labor relations in the United States.

ILR 615 Dispute Settlement 3 cr.
Review of the theories underlying and legislation supporting labor arbitration, emphasizing development of advocacy skills through simulations of actual disputes. **Prerequisite:** ILR 613.

ILR 618 Seminar: Current Issues in Industrial and Labor Relations 3 cr.
Detailed examination of current professional issues in the field.

ILR 619 Research Methods in Industrial and Labor Relations 3 cr.
Nature of and major outlets for contemporary research in labor relations, as well as the historical development of research in the field. Elements of statistics and quantitative interpretations are introduced.

ILR 620 Internship 3 cr.
Field experience in industrial and labor relations. An internship log and term paper are required.

ILR 621 Labor Relations in the Public Sector 3 cr.
Developments in federal, state, and local labor relations, including Presidential orders and federal agencies; survey of the states; Pennsylvania Acts 111 and 195; effects of public sector fact-finding; and arbitration.

ILR 622 Discrimination in Employment 3 cr.
Investigation of employment discrimination in the United States with special attention to the roles of government, industry, and labor and the impact of federal intervention since 1960.

ILR 623 Structure and Government of Unions 3 cr.
The union examined as an institution, with focus on its organizational structure: administration; relationships with the employer, its members, and its state and national affiliates. Particular unions will be chosen for case study.

ILR 624 Comparative Labor Relations 3 cr.
International dimensions of labor relations are explored by examining the labor-management relations in a foreign country or region. **Prerequisite:** ILR 613.

ILR 625 Processes of Collective Bargaining 3 cr.
Survey of current laws, principles, and procedures in use in modern collective bargaining and evolving trends.

ILR 631 Human Resources Management in the Public Sector 3 cr.
Human resource management systems with a special examination of public sector organizations.

ILR 632 Compensation Administration 3 cr.
Study of the field of compensation management and benefits administration in the public and private sectors. Special emphasis on the input of collective bargaining

COURSE DESCRIPTIONS

in the development and administration of compensation and benefit systems and the necessary skills to function as a professional in the field.

ILR 640 Negotiations 3 cr.
A course on negotiations theory and practice which applies negotiations strategies from a variety of fields in hands-on simulations of collective bargaining in labor relations. **Prerequisite:** ILR 613.

ILR 641 Contract Administration 3 cr.
Analysis of the practices and responsibilities of labor and management in the mutual performance of a collective bargaining agreement with primary attention given to the process of grievance resolution. **Prerequisite:** ILR 613.

ILR 642 Concerted Activity 3 s.h.
Examines the various strategies and tactics available to the parties in confrontational situations. Emphasizes the statutory limitations set forth in the Labor Management Relations Act relating to topics such as picketing, consumer appeals, and boycotts.

ILR 650 Alternative Work Styles 3 cr.
Review of efforts to increase worker participation in certain levels of managerial decision making in private and public production or service enterprise, through shares in ownership, seats on boards, quality circles, and other participative structures. Results will be considered from the point of view of productivity, worker satisfaction, and social utility. **Prerequisite:** ILR 613.

ILR 651 Conflict Resolution 3 cr.
An applied course focusing on the resolution of conflict between groups by a third party. Specifically examined are the techniques of negotiation, mediation, and conciliation. Simulation and role play are utilized as well as readings in theory and case study.

ILR 681 Special Topics in Industrial and Labor Relations 3 cr.
According to student demand, special graduate courses on selected topics.

ILR 698 Internship 3 cr.
Field experience in industrial and labor relations. An internship log and term paper are required.

ILR 699 Independent Study 3 cr.
Students will select one or more topics of critical importance in industrial and labor relations and will meet with faculty for independent reading, analysis, and evaluation. **Prerequisites:** Approval of department chairperson, college dean, and provost.

ILR 850 Thesis
For students writing the thesis, ILR 850 should be scheduled for the semester in which they plan to complete their work. The thesis is a committee thesis (1 to 6 semester hours).

LTCY: Literacy

Department of Professional Studies in Education
College of Education and Educational Technology

LTCY 590 Improving Professional Practice in Instructional Settings 1-3 cr. and

LTCY 591 Improving Professional Practice in Instructional Settings 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

LTCY 600 Foundations of Literacy Instruction 3 cr.
Introduces literacy instruction which recognizes social, cultural, historical, and political perspectives. Emphasizes nature of reading and writing processes, the characteristics and developmental processes of the learner, and instructional strategies that enhance literacy in the classroom.

LTCY 601 Assessment and Acceleration 3 cr.
Examines traditional and current teaching strategies, formal and informal assessment, theory and research of literacy difficulties. Emphasizes intervention. A knowledge of basic computer technology is required. Electronic technology, including databases, spreadsheets, and the Internet will be incorporated.

LTCY 602 Reading and Writing in the Content Areas 3 cr.
Emphasizes strategies, techniques, and materials related to literacy and study skills in the content areas at elementary and secondary levels. A variety of materials, including electronic technology, will be incorporated.

LTCY 605 Organization and Administration of Reading/Writing Programs 3 cr.
Acquaints students with issues in analyzing and improving curriculum, evaluating approaches to instruction, providing guidelines for selection of textbooks, materials, and technology, exploring challenges of family and community involvement, implementing changes, and conducting staff development. Emphasizes the role of reading specialist, resource specialist, supervisors, and classroom teachers.

LTCY 607 Instruction and Learning With Literature 3 cr.
Acquaints students with examining literature, developing instructional materials using the literature, and analyzing literature in its many forms, including electronic technology. Diversity in literature and diversity in student needs will be emphasized. Students will utilize electronic technology to access children's literature from national and international libraries.

LTCY 644 Issues and Trends in the Language Arts 3 cr.
Emphasizes effective communications through the study of current trends, resources, and the contributions of research in the various areas of language arts. Places special emphasis on an integrated model for organizing the language arts.

LTCY 648 Creativity and the Elementary School Child 3 cr.
Includes a study of creative thinking and ways to develop creativity in children, including strategies and techniques to use in the classroom. Ways of measuring creativity and analyzing the role of the teacher are included. Students are encouraged to develop their own creativity.

LTCY 670 Practicum and Seminar for Reading Specialists I 3 cr.
Assignment to the Literacy Center includes developing and implementing a program of assessment and acceleration for individual clients or small groups. Experiences with observational techniques, recordkeeping, interviewing, family conferencing, and report writing will be included. An electronic portfolio will be maintained. Supervision by Reading Specialist Program faculty members will be on site and through videoconferencing.

LTCY 671 Practicum and Seminar for Reading Specialists II 3 cr.
Assignment to an approved school site includes developing and implementing a program of assessment and acceleration for individual clients or small groups. Experiences with observational techniques, recordkeeping, interviewing, family conferencing, and report writing will be included. An electronic portfolio will be maintained. Supervision by Reading Specialist Program faculty members will be on site or through videoconferencing.

LTCY 697 Seminar in Special Problems in Reading 3 cr.
Special topics on literacy as examined through a systematic analysis of theory as it relates to practice. Students are required to study a topic of choice in depth.

LTCY 698 Analysis of Research in Literacy 3 cr.
Examines quantitative and qualitative research in reading, writing, and other literacy and language issues. Designed to ensure that students will be able to read, interpret, and evaluate statistical and ethnographic research in literacy. The use of the Internet for access to research is required.

LTCY 699 Independent Study in Reading Education 1-3 cr.
The student, with the cooperation of the reading faculty member with whom he/she expects to work and his/her reading faculty advisor, engages in a study individually or with a small group on some program or field not clearly defined in existing courses. **Prerequisite:** Permission of the coordinator.

LTCY 850 Thesis 1-6 cr.

MATH: Mathematics

Department of Mathematics
College of Natural Sciences and Mathematics

MATH 518 Sampling Survey Theory and Its Applications 3 cr.
Directed to the student who is or will be doing quantitative research, commissioning large-scale surveys, and evaluating the results. Sampling techniques and statistical principles underlying their use will be introduced. Consideration will be given to the practical problems associated with implementation. **Prerequisite:** (for non-Math majors) MATH 214, MATH 216, MATH 217, or GSR 516.

MATH 521-522 Advanced Calculus I, II 3, 3 cr.

A rigorous investigation of continuity, differentiation, and integration on real p -dimensional space. The Riemann-Stieltjes integral, infinite series, and infinite series of functions are also studied. **Prerequisite:** Permission of the advisor.

MATH 523 Complex Variables I 3 cr.

Introduces fundamental concepts of complex analysis and includes the following topics: complex numbers, functions, sequences, analytic functions, elementary functions, complex integration, power series, Laurent series, singular points, calculus of residues, infinite product and partial fraction expansion, conformal mapping, and analytic continuation. **Prerequisite:** Permission of the advisor.

MATH 525 Applied Mathematical Analysis I 3 cr.

Provides the necessary background for an understanding of mathematical programming, proofs of convergence of algorithms, convexity, and factorable functions. Develops necessary concepts in matrix theory which are required to develop efficient algorithms to solve linear and nonlinear programming models. **Prerequisite:** Calculus sequence, introductory linear algebra, or permission of the instructor.

MATH 527 Topology 3 cr.

Basic topological concepts, including some topological invariant relationships between topology and other disciplines of mathematics, are discussed. **Prerequisites:** Differential and Integral Calculus.

MATH 545 Programming Models in Operations Research 3 cr.

Development of deterministic mathematical models for managerial and social sciences with relevant computational techniques. Three hours' lecture per week. **Prerequisites:** Two semesters of calculus.

MATH 546 Probabilistic Models in Operations Research 3 cr.

Development of probabilistic mathematical models for managerial and social sciences with relevant computational techniques. Three hours' lecture per week. **Prerequisites:** Two semesters of calculus, MATH 563 or equivalent.

MATH 547 Simulation Models 3 cr.

Considers the types of models basic to any simulation and methods for building and using such models. Includes discrete and continuous system simulations, their applications, and an introduction to SLAM II (Simulation Language for Alternative Modeling). **Prerequisites:** Completion of the calculus sequence, background in statistics and probability, and familiarity with concepts of programming (knowledge of a particular programming language not required).

MATH 551 Numerical Methods for Supercomputers 3 cr.

Supercomputers make use of special computer architectures—vector and parallel processors—in order to achieve the fastest processing speed currently available. Students will be introduced to these features and will learn how numerical algorithms can be constructed to exploit supercomputers' capabilities. Students will gain practical experience in programming for the Cray YMP, in incorporating existing scientific software packages into user-written programs, in submitting remote jobs to the Pittsburgh Supercomputer Center, and in producing animated graphical output to summarize the typically large volume of output data generated by large scientific programs. **Prerequisites:** Permission of the instructor.

MATH 553 Theory of Numbers 3 cr.

Elementary properties of divisibility, congruences, Chinese remainder theories, primitive roots and indices, quadratic reciprocity, diophantine equations, and number theoretic functions. **Prerequisites:** Differential and Integral Calculus.

MATH 563 Mathematical Statistics I 3 cr.

Probability theory necessary for an understanding of mathematical statistics is developed; applications of the theory are given, with emphasis on binomial, Poisson, and normal distributions. Sampling distributions and the central limit theorem are developed. **Prerequisites:** Differential and Integral Calculus.

MATH 564 Mathematical Statistics II 3 cr.

Multivariate distributions, properties of the moment generating function, change of variable technique, Chi-square distribution, estimation, confidence intervals, testing hypotheses, contingency tables, goodness of fit. Many practical applications. Use of calculating machines and computers where appropriate. **Prerequisite:** MATH 563.

MATH 565 Topics in Statistics 3 cr.

Correlation and regression from applied and theoretical points of view, bivariate normal distribution, small sample theory, Student's t and F distributions, analysis of variance, nonparametric methods. Many practical applications. Calculating machines and computers used as appropriate. **Prerequisite:** MATH 564.

MATH 571 Linear Algebra 3 cr.

Theory of vector spaces and linear transformations; applications to linear equations, determinants, and characteristic roots are studied.

MATH 576-577 Abstract Algebra I, II 3, 3 cr.

Basic algebraic structures such as groups, rings, integral domains, and fields. Designed to develop ability to construct formal proofs and work within an abstract axiomatic system. Polynomial rings, factorization, and field extension leading up to Galois theory.

MATH 581-583 Topics Seminars in Mathematics 3 cr.

Special topics going beyond the scope of regularly offered courses. Offered per student interest/available staff. Students may take more than one topic seminar with approval of advisor. **Prerequisite:** Consent of instructor.

MATH 600 Methods of Research in Mathematics 3 cr.

Review of literature and recent research in mathematics. Emphasis on use of periodicals, other library resources. Each student completes an independent study of an approved topic, including a written report.

MATH 631 Foundations of Mathematics 3 cr.

Designed to acquaint students with logical techniques used in proof and set theory. Topics include symbolic logic, rules of inference, validity of arguments, algebra of sets, cardinal numbers, the well-ordering property, and the Axiom of Choice.

MATH 641 Differential Equations 3 cr.

Special solvable nonlinear equations with solutions based on operator techniques. Laplace transform, or infinite series. Applications to physical problems. Three hours' lecture per week. **Prerequisite:** Differential and Integral Calculus.

MATH 643 Graphs, Networks, and Combinatorics 3 cr.

Studies arrangements and counting through the use of classical and analytical techniques. Properties of arrangement and measure of graphs are also examined. Emphasis is on computation and application. **Prerequisites:** Calculus sequence.

MATH 645 Nonlinear Programming Models 3 cr.

Examines algorithms for solving nonlinear programming (optimization) models. Also concerned with the theory of nonlinear optimization and with characteristics of optimal points. Optimization models of real-world problems which can be solved by nonlinear programming methodology are also presented. **Prerequisites:** MATH 525 and MATH 545 or equivalent courses.

MATH 650 History of Mathematics 3 cr.

People and ideas that have shaped the course of events in mathematics. Major attention given to developing activities for secondary school mathematics classroom which incorporate the historical viewpoint.

MATH 651 Seminar in Teaching Junior High School Mathematics 3 cr.

Explores problems of teaching mathematics at junior high level. Emphasis on a discovery, lab-oriented approach to teaching. **Prerequisite:** Permission of instructor.

MATH 652 Seminar in Teaching Senior High School Mathematics 3 cr.

National and international forces shaping today's mathematics programs; curriculum development and research; art of generating interest; formation of concepts; proof, problem solving, generalization, and evaluation. Special attention to teaching topics from algebra and calculus and modern approaches to teaching geometry and trigonometry. **Prerequisite:** Permission of instructor.

MATH 654 Curriculum and Supervision in Mathematics 3 cr.

Basic principles underlying effective mathematics curriculum from both a theoretical and experimental viewpoint. Investigates supervisor's role as source of stimulation, leadership, and expertise in teaching mathematics.

MATH 655 Projective Geometry 3 cr.

Introduces Klein's formulation of geometry of the invariant theory of a given set under a given group of transformations and develops projective spaces of one and two dimensions and conics and quadratic forms. **Prerequisites:** Undergraduate courses in linear algebra and geometry.

MATH 656 Affine Geometry 3 cr.

Examines affine and metric geometries based on axiomatic system stated in terms of linear algebra, which leads to important theorems of classical geometry. **Prerequisites:** Undergraduate courses in linear algebra and geometry.

MATH 661 Advanced Sampling Theory 3 cr.

Sampling techniques and the statistical principles underlying their use are introduced along with some of the more difficult nonsampling problems that arise in the design and implementation of large-scale sample surveys. Topics include simple random sampling, stratified random sampling, systematic sampling, cluster sampling, ratio estimation, use of supplementary information, sampling from wildlife populations, and sample size determination. Computer software will be used to facilitate arithmetic calculations. **Prerequisite:** MATH 564 or consent of the instructor.

COURSE DESCRIPTIONS

MATH 663 Nonparametric Statistics 3 cr.
Examines statistical procedures valid under unrestrictive assumptions, scales of measurement, efficiency comparisons, signed rank procedures, two-sample rank tests, zero ties, order statistics, k-sample procedures, nonparametric measure of correlation. **Prerequisite:** MATH 564 or consent of the instructor.

MATH 665 Applied Regression Analysis 3 cr.
Regression analysis and its interfaces with multivariate methods are presented in this course. The student is introduced to least squares, a matrix approach to linear regression, an examination of residuals, dummy variables, the polynomial model, best regression equations, multiple regression and mathematical model building, and multiple regression applied to analysis of variance and covariance. Computer programs for multivariate analysis will be used. **Prerequisites:** Introductory Linear Algebra and MATH 564 or consent of the instructor.

MATH 681-683 Special Topics in Mathematics 3 cr.
Special topics in graduate mathematics beyond the scope of regularly offered graduate classes. Offered as student interest and available staff permit. With approval of the advisor more than one special topics class may be taken. **Prerequisite:** Consent of the instructor.

MATH 684 Topics in Operations Research 3 cr.
Special topics in operations research beyond the scope of regularly offered graduate courses. Offered as student interest and available staff permit. **Prerequisite:** Consent of the instructor.

MATH 685 Topics in Statistical Methods 3 cr.
This variable content course is designed for the student who has knowledge of basic statistical principles including analysis of variance and covariance, regression, and nonparametric statistics. Advanced, innovative, or exploratory topics in applied statistics will be introduced. Content will vary according to the interests of the instructor and students. **Prerequisites:** MATH 661, MATH 663, and MATH 665.

MATH 688 Problems in Applied Mathematics 3 cr.
The purpose of this course is to involve the students in the solution of the mathematical problems which arise in real-world applications or to present topics which apply mathematics to real-world situations. **Prerequisites:** MATH 525, MATH 564, MATH 545, MATH 546, and permission of the instructor.

MATH 698 Internship 1-6 cr.
Positions with participating companies or agencies provide students with experience in mathematics-related work under the supervision of agencies and faculty.

MATH 699 Independent Study in Mathematics 3 cr.
Under the guidance of faculty member, a student may study some area of mathematics not included in the regular courses.

MATH 850 Thesis 3 cr.

MEDU: Master's in Education

Department of Professional Studies in Education
College of Education and Educational Technology

MEDU 590 Improving Professional Practice in Instructional Settings 1-3 cr. and

MEDU 591 Improving Professional Practice in Instructional Settings 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

MEDU 661 Community and Culture 6 cr.
This team-taught Thematic Unit is designed to provide graduate students with a strong theoretical and practical knowledge base of community and the culture in which the school resides. The Thematic Unit also emphasizes indirect educational variables such as community, culture, and language diversity that directly affect all public school learners. Upon the completion of this Thematic Unit, students will possess higher levels of self-efficacy and will be empowered to engage with the school, the community, and the culture in an educational and social context. **Prerequisite:** Formal program acceptance.

MEDU 662 Instruction and the Learner 6 cr.
This team-taught Thematic Unit is designed to prepare graduate students with a strong theoretical and practical knowledge base of instruction and the learner.

Cognitive, humanist, and behavioral views of instruction are analyzed and identified with their corresponding classroom practices. In addition, various aspects of the learner are examined developmentally and within the instructional context. Students will have an opportunity to use a model of reflective thinking and teaching to apply their knowledge of instructional technology to facilitate classroom learning. Students will also learn to apply constructivist perspectives on instruction to personal classroom practice. **Prerequisites:** MEDU 661.

MEDU 663 Teacher as Researcher 6 cr.
This Thematic Unit will provide teachers with the ability to use various research methods that will help them obtain practical knowledge that can be incorporated into their daily classroom practices. These research skills are intended to: a) improve teachers' awareness of and relationships to their students' lives; and b) stimulate the formation of relevant and sound teaching strategies that incorporate their findings into the classroom in ways that recognize, validate, and build upon their students' prior socialization, knowledge, and "meaning-making" strategies. This Thematic Unit will familiarize students with the conceptual frameworks, methods, and research traditions from both quantitative and qualitative perspectives. **Prerequisites:** MEDU 661, MEDU 662.

MEDU 664 Educational Change and Technology 6 cr.
This team-taught Thematic Unit is designed to prepare graduate students with a strong theoretical and practical knowledge base focusing on a number of educational changes occurring in schools today. Topics include (but are not limited to) the possibilities and challenges of technology and the Information Highway, school organization, program design, instructional strategies, assessment practices, and the roles and relationships of educators, families, and community. **Prerequisites:** MEDU 661, MEDU 662, MEDU 663.

MEDU 665 Curriculum and Instruction 6 cr.
This team-taught Thematic Unit is designed to prepare graduate students with a strong theoretical and practical knowledge of a variety of instructional design and delivery strategies. Through critical inquiry, students will explore the organizational, academic, political, and social issues of curriculum and instruction. This Thematic Unit fosters and supports the concept of the teacher reflective practitioner. Students will be encouraged to link theory and practice through the relationship of projects and actual day-to-day classroom practice. The many facets of instructional design and delivery will also invite and support development of students' research assignments. **Prerequisites:** MEDU 661, MEDU 662, MEDU 663, MEDU 664.

MEDU 666 Teacher as Leader 6 cr.
What are the attributes of a teacher leader? What impact does adult development have on classroom teaching strategies? These two questions provide the overall focus for the Teacher as Leader Thematic Unit, which will present a variety of teacher leadership models as well as the theories related specifically to teachers and adult development. Students will plan and implement specific projects in their own schools that relate to these two variables. In addition, students will be required to research and write papers and to develop simulations to enhance their understanding of these theories and models. **Prerequisites:** MEDU 661, MEDU 662, MEDU 663, MEDU 664, MEDU 665.

MGMT: Management

Department of Management
Eberly College of Business and Information Technology

MGMT 613 Organizational Analysis 3 cr.
An integrative course oriented toward an empirical analysis of the phenomena and theories of large, complex, formal organizations. Intergroup phenomena are also treated as they pertain to the larger organization. Special study is made of the organization as an economic, decision-making, bureaucratic, and political system. The analysis and design of organizations is viewed from a number of perspectives, including classical theory and case analysis, to illustrate and extend the major topics of the course. **Prerequisite:** MGMT 310.

MGMT 623 Seminar in Personnel 3 cr.
Designed to offer the M.B.A. student the opportunity to research, study, and discuss various theories, principles, concepts, and issues of current interest to business and personnel managers. The case method will be emphasized, and the focus or theme of the seminar may be different each time it is offered. **Prerequisite:** MGMT 613.

MGMT 631 Management Development and Training 3 cr.
A survey of the major aspects, trends, and methodologies in management development and training as these specializations are being practiced in enterprises in the advanced Western nations. **Prerequisite:** MGMT 613.

MGMT 635 Seminar in Management and Organizational Leadership 3 cr.
Studies of theory and research in the leadership of groups and organizations with

application to the management fields of business, industry, and labor. The debate, research, and study of controversial leadership issues of current interest to management and preparation of a research paper by the student in his/her occupational interest area are required. **Prerequisite:** MGMT 613.

MGMT 637 Operations Management 3 cr.
Acquaints the student with a broad range of strategic, tactical, design, and operating (day-to-day) decisions within the operations function in both service-providing and goods-producing businesses. Emphasis will be on the new paradigm of operations management with focus on current technologies, concepts, philosophies, and managerial practices. Students will obtain a comprehensive insight on a wide variety of topics, including management of quality, productivity, technology, and inventory, product and process design, facility location and layout, project management, service, and manufacturing management.

MGMT 642 Organizational Behavior 3 cr.
Study of human motivations and their constructive application to all aspects of business. Psychological basis of human relations will be developed as it applies in the business world. Major topics include employer-employee relations, labor relations, stockholder relations, customer relations, community relations, and public relations. **Prerequisite:** MGMT 613.

MGMT 651 International Management 3 cr.
Study of theories and problems of management in multinational corporations (MNCs). Examines the macro- and structural-level issues of MNCs. Focuses on planning, organization structure, managerial decision making, human resource management in global structures, and differences between MNCs and domestic organizations.

MGMT 652 Comparative Management 3 cr.
Study of management theory and practice in different cultures. Analyzes international similarities and dissimilarities in management functions, processes, structures, and factors. Relates these topics to sociocultural, economic, political, and physical dimensions of the environment. A variety of comparative management systems, models, and theories are addressed, and research findings are examined. **Prerequisite:** MGMT 613.

MGMT 654 Managing Global Competition 3 cr.
Changes in technology and world trade contribute to unstable managing environments. Course focuses on strategies to enhance the firm's ability to compete on a global basis. Fundamental business issues such as managing for the future, innovation, strategic alliances, success factors in the international environment, and long-range concerns of top management will be discussed. **Prerequisite:** MGMT 613.

MGMT 681 Special Topics in Management 3 cr.
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary, depending upon the interests of instructor and students, with instructor choosing specific topics. May be repeated by specific approval. **Prerequisite:** Permission of the instructor and of the Eberly College of Business and Information Technology graduate coordinator.

MGMT 695 Business Policy 3 cr.
Provides the graduate student an opportunity to utilize, integrate, and apply the theories, concepts, principles, and tools acquired during his/her business education (accounting, finance, marketing, management, management information systems, statistics, etc.) to real-world business problems and situations. Utilizes lectures, case studies, library research, field research, simulations, role playing, group decision making, and other strategic planning exercises. **Prerequisite:** 15 hours of graduate business courses.

MGMT 699 Independent Study in Management 1-3 cr.
With the approval of the department, students will select one or more topics of critical importance in the field and will meet with faculty for independent reading, analysis, and evaluation. **Prerequisite:** Approval of department chairperson and Eberly College of Business and Information Technology graduate coordinator.

MGMT 850 Thesis 4-6 cr.
For students writing the thesis, MGMT 850 should be scheduled for the semester in which they plan to complete their work. The thesis is a committee thesis (4-6 cr.), for which the student's advisor, two additional faculty members, the Eberly College of Business and Information Technology graduate coordinator, and/or the representative of the dean of the Eberly College of Business and Information Technology may constitute the committee.

MKTG: Marketing

Department of Marketing
Eberly College of Business and Information Technology

MKTG 521 Marketing Research 3 cr.
Research procedures and techniques applicable to problem solving in the marketing field. Critical analysis of research techniques with considerable emphasis placed on the use of information gathered. **Prerequisite:** MKTG 320.

MKTG 530 International Marketing 3 cr.
International marketing is analyzed with consideration given to the significance of government regulation, organization structures of export and import enterprises, and credit policies. **Prerequisite:** MKTG 320.

MKTG 603 Marketing Management 3 cr.
An analytical and quantitative approach to decision making and the planning, development, implementation, and control of a marketing program. **Prerequisite:** MKTG 320.

MKTG 611 Marketing Communications 3 cr.
Basic principles of marketing communications, such as sales promotion and advertising, together with a consideration of the major problems encountered in the management of those activities. Emphasizes the determination of basic promotional strategy, selection of advertising media, determination of advertising appropriations, and advertising research. **Prerequisite:** MKTG 603.

MKTG 681 Special Topics in Marketing 3 cr.
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary, depending upon the interests of instructor and students, with the instructor choosing specific topics. May be repeated by specific approval. **Prerequisite:** Permission of the instructor and of the Eberly College of Business and Information Technology graduate coordinator.

MKTG 699 Independent Study in Marketing 1-3 cr.
With the approval of the department, students will select one or more topics of critical importance in the field and will meet with faculty for independent reading, analysis, and evaluation. **Prerequisite:** Approvals of department chairperson and Eberly College of Business and Information Technology graduate coordinator.

MKTG 850 Thesis 4-6 cr.
For students writing the thesis, MKTG 850 should be scheduled for the semester in which they plan to complete their work. The thesis is a committee thesis (4-6 cr.) for which the student's advisor, two additional faculty members, the Eberly College of Business and Information Technology graduate coordinator, and/or the representative of the dean of the Eberly College of Business and Information Technology may constitute the committee.

MRSC: Marine Science

Department of Biology
College of Natural Sciences and Mathematics

MRSC 500 Problems in Marine Science 3 cr.
Independent study for the advanced student in marine sciences. Topics are selected from areas offered by the Marine Consortium, and studies are directed by the instructor in that area. **Prerequisite:** Consent of instructor.

MUHI: Music History

Department of Music
College of Fine Arts

MUHI 503 Music of the Baroque Era 3 cr.
A survey of music from about 1600 to 1750.

MUHI 504 Music of the Classical Era 3 cr.
A survey of music from about 1725 to about 1827.

MUHI 505 Music of the Romantic Era 3 cr.
A survey of music from about 1800 to 1910.

MUHI 507 Music of the Twentieth Century 3 cr.
A survey of the principal stylistic trends in music from 1900 to the present.

MUHI 508 Music of the Sixteenth Century 3 cr.
A survey of music from about 1500 to 1600.

COURSE DESCRIPTIONS

MUSC: Music

Department of Music
College of Fine Arts

- MUSC 501 Advanced Choral Conducting** 2 cr.
Material will include large choral works with and without accompaniment. Student will be expected to develop skills in reading score.
- MUSC 502 Advanced Instrumental Conducting** 2 cr.
An intensive study of large instrumental works. Skill development of each individual will be stressed.
- MUSC 509 Piano Pedagogy** 3 cr.
Survey of current and significant past developments in teaching of piano, both privately and in small and large classes. The various piano methods are analyzed, compared, criticized, and adapted to each individual's use.
- MUSC 510 Seminar in Music** 3 cr.
Subject matter will change each semester. Students will make presentations and write an extensive research paper. Seminar may be repeated (with departmental approval), provided subject matter is not. An in-depth study can be made of narrowly defined areas, such as life and/or works of a specific composer or group of composers.
- MUSC 511 Composition** 3 cr.
Composition of music in various song forms through the rondos and the larger sonata allegro form. Careful analysis of similar forms of major composers. Instruction will be highly individualized and will depend considerably on personal interest of the student.
- MUSC 512 Advanced Orchestration** 3 cr.
Consideration to problems of scoring for full symphony orchestra, string orchestra, and chamber orchestra. Students will produce a full score and orchestra parts so that orchestra may be tested by actual playing by the University Symphony.
- MUSC 516 Analytical Techniques** 3 cr.
Study of representative compositions of various periods, with emphasis on formal harmonic and stylistic analysis. Student will develop basic analytical techniques necessary for analysis of music of any period.
- MUSC 537 Techniques of the Marching Band** 2 cr.
Theory and practical application of fundamentals of precision drill. This course also deals with building "half-time shows" and with materials and instrumentation of the marching band.
- MUSC 540-550 Summer Music Workshop** 1-3 cr.
Concentration in special interest areas. Content varies.
- MUSC 575 Music Ensemble** 1 cr.
- MUSC 600 Bibliography of Music** 3 cr.
Introduces graduate students to various types of music, music literature, and bibliographical tools which exist and which may be used in research in music. As a project, students will prepare an extensive annotated bibliography of a music subject within their special interest.
- MUSC 618 Comprehensive Musicianship** 3 cr.
Combines undergraduate concepts and skills in music theory, literature, and performance at an advanced level using an integrated approach. Prepares student to function in a variety of musical roles.
- MUSC 619 Methods for Comprehensive Musicianship** 3 cr.
Includes learning strategies, experiences, and activities appropriate for introducing comprehensive musicianship at elementary and secondary school levels.
- MUSC 620 Foundations of Music Education** 3 cr.
Study of historical, philosophical, and social foundation of music education, including educational thought and implications for school music programs.
- MUSC 622 Composition II** 3 cr.
- MUSC 623 Composition III** 3 cr.
- MUSC 631 Administrative Problems in Music Education** 2 cr.
Review of conventional administrative organization of music education in public schools. Role of music director, music specialist, consultant, and music resources teacher will be carefully defined. Consideration of problems of scheduling in

public school. Current issues concerned with music education and public education in general will be considered, including curriculum development.

- MUSC 632 Research Techniques in Music** 3 cr.
Study of techniques appropriate for music and music education, including selection of research problem, collection of data, types of research, survey of current research studies in music, and use of library in connection with research problems. Elements of statistics are introduced as needed to interpret research reports. As part of requirements, student will prepare a written plan for research project or thesis.
- MUSC 635 Psychology of Music Education** 2 cr.
An analysis of the latest evidence produced by the field of psychology in music as applied in actual classroom situations.
- MUSC 636 Advanced Technology of Music Education** 2 cr.
Examination and application of modern communications media and their role in music education. Development of an experimental sound lab and use of electronic devices, synthesizers, and computers. Application of systems approach and programmed learning to music education.
- MUSC 699 Independent Study in Music** 1-6 cr.
- MUSC 850 Thesis** 4 cr.

NURS: Nursing

Department of Nursing and Allied Health Professions
College of Health and Human Services

- NURS 511 Advanced Health Assessment** 3 cr.
Builds upon the basic assessment techniques of the registered nurse and is designed to provide the student with the ability to assess the health status of adults. This course will enable the student to collect a comprehensive health history and perform complete physical examination on adults from various backgrounds. Examination techniques and identification of deviations from normal will be the focus.
- NURS 555 Introduction to Nursing Informatics** 3 cr.
Introduces and provides overview in the application of the disciplines of nursing science, computer science, and information science in collecting, processing, and managing information to promote decision making in nursing.
- NURS 581 Special Topics** 3 cr.
Topical courses offered on an experimental basis.
- NURS 610 Health Promotion and Social Issues** 3 cr.
Enhances the ability of the student to develop an understanding and appreciation of human diversity and social issues in health and illness. The focus will be on the analysis of the cultural and social issues affecting health including ethnicity, race, gender, age, and geographic locations. Students will compare health care norms and practices and develop solutions to health care problems.
- NURS 612 Pathophysiology for Advanced Practice Nursing** 3 cr.
Provides an advanced study of the basic mechanisms that explain organ/system function and dysfunction. Emphasis is placed on pathologic processes underlying common health problems. The rationale for diagnostic studies and therapeutic interventions will be underscored. Systems to be examined include immune, cardiovascular, respiratory, gastrointestinal, renal, and neurologic.
- NURS 613 Pharmacology for Advanced Practice Nursing** 3 cr.
Focuses on principles of pharmacology and the application of drugs on specific disease states. Emphasis will be placed on the understanding of pharmacodynamics and pharmacokinetics and the selection of specific drugs for certain clinical disorders.
- NURS 614 Health Care Organizations and Policy** 3 cr.
Provides an overview of the health care delivery system. Students will analyze federal and state regulatory processes policies as they affect health services. The history, current status, and future directions of health policies will be explored within their social, ethical, economic, and political contexts. The influence of nursing on policy development will be evaluated.
- NURS 619 Leadership Strategies in Nursing** 3 cr.
Provides an overview of the characteristics and quality of leadership in professional nurses. This course will focus on analyzing and synthesizing leadership and management concepts, modules, and theories. Effective leadership strategies for the nurse administrator and practitioners will be explored.

NURS 620 Theoretical Foundation for Nursing 3 cr.
Focuses on the critique, evaluation, and utilization of nursing and related theories for nursing practice. Students will be expected to analyze the appropriateness of theories for utilization in practice and research.

NURS 622 The Practice of Nursing Research I 3 cr.
Prepares the graduate nursing student to examine the conceptual, theoretical, and ethical contexts of nursing research. Concepts of statistical theory, measurement strategies, and data collection issues are presented, as they are applicable to clinical nursing research. Students will also investigate funding procedures for small clinical studies. Corequisite: NURS 620.

NURS 623 The Practice of Nursing Research II 3 cr.
Prepares the graduate nursing student to become proficient in the application of research to nursing practice including evaluation of research studies, problem identification within clinical practice settings, development of practice protocols, and measurement of patient outcomes. Research findings will be studied as the basis for clinical and organizational decision making. Prerequisite: NURS 622 or equivalent.

NURS 681 Special Topics 3 cr.
Topical courses offered on an experimental basis.

NURS 699 Independent Study 3 cr.
Under the guidance of a faculty member with necessary expertise, the student may study in depth some aspect of nursing or health care not included in required courses.

NURS 725 Teaching Strategies for Nursing Curricula 3 cr.
Explores and analyzes theories of learning, instructional modalities, teaching strategies, and evaluation methods pertaining to nursing education in the classroom and clinical practice settings.

NURS 729 Nursing Administration 3 cr.
Concepts and theories related to the management process are used to examine the roles and responsibilities of the nurse manager in health care organizations. The influences of environment and technology as well as issues and trends that impact on nursing management are explored. Prerequisites: NURS 614, NURS 619, and NURS 622.

NURS 730 Financial Management in Health Care 3 cr.
Provides an overview of the financial decision-making processes used by health care managers in a rapidly changing financial environment. Emphasis will be on assessing and developing financial plans and making financial decisions in a variety of health care settings. Prerequisite: NURS 619.

NURS 731 Nursing Administration Practicum 6 cr.
The administrative role of the nurse manager is examined in class and clinical setting. Content focuses on evaluation and quality control within the nursing division. Current issues and problems of concern to nurse managers are addressed. The course consists of three-hour seminars each week and a weekly nine-hour practicum. A mentor at a clinical site helps the student synthesize advanced practical knowledge in nursing management. Prerequisites: NURS 729 and NURS 730.

NURS 734 Concepts of Community Health Nursing 3 cr.
Provides an in-depth study of the requisite concepts and skills for community health nursing. Building on the understanding of individuals as clients, the students will now gain perspective on aggregates and communities as recipients of nursing care and the delivery sites of community health care. Included in the content will be epidemiological principles that are the foundation to clinical decision making in community health nursing practice. The relevance of nursing research to community health nursing practice will also be discussed. The course will also provide an opportunity to advance health and social policies as they relate to community health care. Prerequisites: NURS 511, NURS 612, and NURS 620. Corequisites: NURS 610, NURS 613.

NURS 735 Aggregates in the Community 3 cr.
Provides the family and community theory to support nursing care for families, aggregates, and select communities through primary, secondary, and tertiary health prevention. Clinical/laboratory component provides opportunity to utilize advanced nursing skills when providing care for families, groups, and communities. Prerequisite: NURS 734. Corequisite: NURS 622.

NURS 736 Leadership in Community Health Nursing 6 cr.
Provides an opportunity for students to assume leadership roles in the assessment, planning, development, coordination, and evaluation of health care programs for individuals, families, groups, and communities. Clinical/laboratory component provides students with the opportunity to plan and coordinate community health programs. Students will formulate research questions

regarding the care of families, groups, and the community. Prerequisite: NURS 735. Corequisite: NURS 614.

NURS 850 Thesis 3-6 cr.
Thesis should be scheduled for the semester in which the student plans to complete degree requirements. A committee of faculty members will provide thesis supervision.

PHIL: Philosophy

Department of Philosophy and Religious Studies
College of Humanities and Social Sciences

PHIL 505 Justice and Human Rights 3 cr.
An analysis of a concept which is the focus of much moral, political, and legal dispute. Philosophical sources are supplemented by recent social science research concerning the comparative abilities of human and nonhuman animals and by environmental studies which prompt consideration of the possible rights of future generations.

PHIL 560 Philosophy of Language 3 cr.
An investigation in the philosophy of language and related issues in linguistics (including anthropological linguistics, sociolinguistics, and psycholinguistics). Sample topics include the influence of language on perception, rationalistic/empiricist perspectives on language acquisition, language and political control, reference, meaning, and truth.

PHIL 581 Special Topics 3 cr.

PHIL 599 Independent Study 1-6 cr.

PHYS: Physics

Department of Physics
College of Natural Sciences and Mathematics

PHYS 507 Introduction to Mathematical Physics I 3 cr.
Designed to provide background needed for most 500-level courses. Student will acquire skills in problem solving in areas of mechanics and wave motion utilizing calculus and vectors. Prerequisite: Permission of advisor.

PHYS 508 Introduction to Mathematical Physics II 3 cr.
A continuation of PHYS 507. Develops skills in problem solving in areas of electricity and magnetism utilizing vectors and calculus. Prerequisite: Permission of advisor.

PHYS 510 Introduction to Theoretical Physics 3 cr.
Application of mathematical methods to physical theory in area of mechanics, electricity, and magnetism, including partial differentials, vector calculus, and non-Cartesian coordinate systems. Prerequisite: Permission of advisor.

PHYS 511 Secondary School Physics Laboratory Practice 1-3 cr.
Designed not only to give the student training in use of PSSC and Harvard Project Physics laboratory materials but also to increase his/her ability to make the lab a more effective teaching tool.

PHYS 512 Curriculum Development in Secondary School Physics 3 cr.
Includes an intensive study of developments, such as PSSC and HPP. Philosophy, methodology, and cognitive theory behind each curriculum will be considered. The lab equipment, experiments, and visual aids for each will be studied in their proper setting.

PHYS 520 Advanced Laboratory Practice 3 cr.
Experimental physics. Experiments are made available to supplement student's previous training. Data interpretation and experimental techniques are emphasized. Topics can include but are not limited to various methods of measurement and analysis of radioactivity, interferometry, spectrometry, microwave optics, NMR, mechanical vibrating systems, and thermal properties.

PHYS 531 Modern Physics 3 cr.
An introduction to particle and wave properties of matter, atomic structure, quantum mechanics, and the quantum mechanical model of the atom.

PHYS 533 Thermal and Statistical Physics 3 cr.
A unified approach to the study of thermodynamics through use of statistical methods. Temperature, entropy, chemical potential, and free energy are introduced and applied to a monatomic ideal gas and systems of fermions and bosons in quantum and classical regions.

PHYS 535 Electronics 4 cr.
DC and AC circuits, diode circuits, and transistor circuits, such as the common emitter and emitter follower amplifiers, are extensively covered. Negative feedback, operational amplifiers, oscillators, and digital logic are introduced. These topics are discussed in lecture and investigated by the student in the lab.

PHYS 536 Advanced Electronics 3 cr.
Field effect transistors, noise problems, grounding and shielding, applications of digital logic, digital-to-analog-to-digital conversion techniques, transmission lines, and microprocessor applications. Two one-hour lectures and one three-hour lab. **Prerequisite:** PHYS 535.

PHYS 541 Analytical Mechanics I 2 cr.
Kinematics, particle dynamics, gravitation, free and forced harmonic motion. Treatment of these topics utilizes vector calculus and differential and integral calculus.

PHYS 542 Analytical Mechanics II 2 cr.
Central-force motion, high-energy collisions.

PHYS 545 Optics 3 cr.
Main concepts of modern optics utilized in areas of geometrical, wave, and quantum optics. Includes presentation of illustrative examples in areas of laser technology, complex optical systems, interferometry, and spectroscopy.

PHYS 551 Electricity and Magnetism I 2 s.h.
Coulomb's law, electrostatic potential, Gauss's law, and dielectrics will be presented using vector calculus in a modern field formalism. **Prerequisite:** PHYS 510.

PHYS 552 Electricity and Magnetism II 2 cr.
Biot and Savart's law, induced emf, vector potential, displacement current, special relativity, and electromagnetic radiation will be presented using techniques introduced in PHYS 551. **Prerequisite:** PHYS 551.

PHYS 555 Computer Interfacing 3 cr.
Designed to teach the fundamentals of interfacing the personal computer with its physical surroundings. Students will learn to collect data and to control experiments. In addition, they will learn to use digital-to-analog and analog-to-digital conversion techniques, as well as how to use virtual instruments. Students will also learn to use LabVIEW (or a similar software package) to design icon-based interfacing tools and to investigate the conditioning of analog and digital information. The students will complete a special project determined by the instructor and the student. **Prerequisites:** Experience in writing computer programs in the C language.

PHYS 561 Quantum Mechanics I 3 cr.
Introduction to theory of linear vector spaces, linear operators, eigenvalues, eigenvectors, and eigenfunction and their application to the harmonic oscillator, hydrogen atom, electron in a magnetic field, scattering, and perturbations. **Prerequisites:** PHYS 541 and PHYS 531 or equivalent.

PHYS 565 Introduction to Nuclear Physics 3 cr.
Survey of introductory nuclear physics including nuclear size, mass, types of decay, models, forces, elementary particles, reaction theory.

PHYS 575 Physics of Semiconductor Devices I 3 cr.
Develops the basic foundation for a student of the theory of semiconductors. Elementary quantum concepts, the band theory of solids, electrical properties of solids, effective mass theory, and principles of semiconductor devices are discussed. **Prerequisites:** PHYS 533, PHYS 535, PHYS 545, or permission of instructor.

PHYS 576 Physics of Semiconductor Devices II 3 cr.
Discusses the physics and operation of a number of discrete devices. These include bipolar transistors, MOSFETS, JFETS, various diode technologies, photovoltaic and photoconductive devices, solid state lasers, and light-emitting diodes. **Prerequisites:** PHYS 575 or permission of instructor.

PHYS 590 Solid State Physics 3 cr.
Reciprocal lattice, crystal structure, the quantization of fields to produce quasiparticles such as phonons, magnons, and excitons. Fermi gas of electrons, energy bands, semiconductor crystals, and photoconductivity. **Prerequisites:** PHYS 531 and 542.

PHYS 599 Special Studies 1-6 cr.
A special topic may be offered at the discretion of the department to fulfill a special necessity.

PHYS 600 Methods of Research in Physics 2 cr.
Offers the student practical training in special methods and materials of research

in physics. Emphasis on types of research and use of physics and physics-related journals and library facilities. **Prerequisite:** Permission of department.

PHYS 601 Theoretical Physics I 3 cr.
Serves as a preparation in mathematical physics for graduate student. Included will be vector analysis, curvilinear coordinate systems, infinite series, complex variables and the calculus of residues, and ordinary and partial differential equations. **Prerequisite:** Permission of department.

PHYS 602 Theoretical Physics II 3 cr.
A continuation of PHYS 601, covering Tensor analysis, matrices, group theory, Sturm-Liouville theory, special functions, Fourier series, integral transforms, Green's functions, and integral equations. **Prerequisite:** PHYS 601.

PHYS 611 Computational Physics 3 cr.
This course is an introduction to developments in computational physics. The emphasis will be on physical concepts and applications rather than mathematical proofs, derivations, and code developments. In particular, the course will show how computers can be used to learn about physics concepts and how they can be used as tools in solving physics problems. A familiarity with the concept of programming is assumed. **Prerequisites:** PHYS 473/561, or equivalent, or permission of the instructor.

PHYS 634 Statistical Mechanics 3 cr.
A quantum approach to statistical mechanics. Fermi, Bose, ideal gas, and imperfect gas systems are investigated. Special topics in kinetic theory of gases, transport phenomena, magnetic systems, and liquid helium. **Corequisite:** PHYS 561 or its equivalent.

PHYS 641 Advanced Mechanics I 3 cr.
Includes the following topics: Lagrange's equations, Hamilton's Principle, Two-body central force, Euler's Theorem, small oscillations, Hamilton's equations, canonical transformations. **Prerequisite:** PHYS 542 or its equivalent.

PHYS 642 Advanced Mechanics II 3 cr.
Rigid body mechanics, including angular momentum, Euler's equations, precessions, special relativity, covariant four-dimensional formulation, Hamilton-Jacobi Theory, introduction to classical field theory. **Prerequisite:** PHYS 641 or equivalent.

PHYS 651 Advanced Electromagnetic Theory I 3 cr.
Solution of boundary value problems using Green's functions and separation of variables techniques. Cartesian and spherical coordinate systems, multipole expansions, macroscopic electrostatics and magnetostatics, Maxwell's equations, and plane electromagnetic waves. **Prerequisite:** PHYS 552 or equivalent.

PHYS 652 Advanced Electromagnetic Theory II 3 cr.
Solution of electrostatic problems using cylindrical coordinates. Green's function for time-dependent wave equation, conservation laws, wave guides and resonant cavities. Special Theory of Relativity, simple radiating systems, and diffraction. **Prerequisite:** PHYS 651.

PHYS 657 Solid State Theory 3 cr.
Quantum approach to solid state. Topics include second quantization of fermion and boson systems, electron theory of metals, electron-phonon interactions, and superconductivity. Selected subjects in thermal transport, magnetic phenomena. **Corequisite:** PHYS 561 or its equivalent.

PHYS 658 Physics and Applications of Industrial Materials 3 cr.
Introduces the essential physics and current industrial applications of technologically important materials by way of both lecture and lab components. Materials of interest will span semiconductors, ceramics, polymers, and composites that find application in microelectronics, magnetic recording, flat panel displays, medical application, and micro machines.

PHYS 661 Quantum Mechanics II 3 cr.
Fundamental concepts of quantum mechanics, theory of representations, and linear vector spaces. Approximation methods for stationary problems with applications to central potentials and for time-dependent problems with application to scattering and transition theory.

PHYS 662 Quantum Mechanics III 3 cr.
Classical and quantum fields; interactions between Fermi and Bose fields; relativistic quantum mechanics; and Dirac theory. Introduction to propagators and Feynman diagrams with application to quantum electrodynamics and many-particle systems.

PHYS 690 Research Problems in Physics 1-6 cr.
Introduction to advanced research problems through individual assignment. **Prerequisite:** Permission of department.

PHYS 699 Independent Study 1-6 cr.
Individualized in-depth study of an area of physics in the student's interest. Work is supervised by a physics faculty member but does not necessarily involve regular lecture or laboratory hours. The topic must be approved by the supervising faculty member and by the administration prior to the semester in which the course is to be taken.

PHYS 850 Thesis 1-6 cr.

PLSC: Political Science

Department of Political Science
College of Humanities and Social Sciences

PLSC 500 Research Methods in Political Science 3 cr.
Provides students with a working knowledge of the statistical techniques commonly applied to the study of political phenomena and an understanding of the basic assumptions, limitations, and theoretical foundations of these various techniques. Focuses on measurement principles, research design and data collection, univariate distributions, sampling, and bivariate analysis.

PLSC 520 International Law 3 cr.
Study of the development, nature, and function of international law, including recent trends.

PLSC 521 International Organizations 3 cr.
Inquiry into purposes, structures, and actions of contemporary international political organizations, such as United Nations, regional, and functional organizations.

PLSC 550 The Presidency 3 cr.
Examines the office of President with attention to Constitutional foundations, evolution, structure, powers, and functions. Comparisons are made between Presidential and parliamentary systems and between offices of President and governor.

PLSC 551 The Legislative Process 3 cr.
Legislative process in the U.S. with emphasis on Congress. Focus on organization and function of legislative bodies, with American legislative institutions compared with those of other nations.

PLSC 553 American Political Parties 3 cr.
Role of people, parties, and pressure groups in politics of American democracy. Attention to sectional and historic roots of national politics, voting behavior, pressure group analysis, and campaign activities.

PLSC 554 Metropolitan Problems 3 cr.
Analyzes multiplicity of problems facing our metropolitan areas, such as urban renewal, shrinking tax base, federal aid to cities, subsidized mass transit, municipal authorities, and political consolidation.

PLSC 555 Intergovernmental Relations 3 cr.
Explores the characteristics of federal system of government with emphasis on theories, origins, institutions, and problems in intergovernmental relations in the U.S.; federal systems in other nations; and trends.

PLSC 556 Mass Media in American Politics 3 cr.
Variant theories of the symbiotic relationship between American politics and the press are examined in the light of American colonial-national experiences. The special Constitutional rights given to media are explored, with particular attention to radio and television.

PLSC 558 Judicial Process 3 cr.
Explores nature and limits of judicial power, courts as policymaking bodies, selection of judges, decision process, external forces impinging on the courts, and role of Supreme Court in its relationship with Congress, the Presidency, and federalism.

PLSC 559 Constitutional Law and Civil Liberties 3 cr.
Study of civil liberties and civil rights issues through leading Supreme Court decisions. Topics include First Amendment rights, procedural due process, and the Bill of Rights and equal protection problems.

PLSC 560 Classical Political Thought 3 cr.
Evolution of Western political tradition of Constitutionalism from Plato and Aristotle to Locke and Montesquieu; religious and rational foundations; medieval theories of authority and representation; early modern theories of state and sovereignty. Concepts of law, natural rights, liberty, equality, and justice are treated in detail.

PLSC 561 Modern Political Thought 3 cr.
Development of Western political thought since the mid-sixteenth century; classic liberalism; conservative thought; modern irrational ideologies such as fascism and national socialism; socialist thought; contemporary collectivist liberalism.

PLSC 562 American Political Thought 3 cr.
Develops an understanding of American political thinkers from the Puritans through the current Afro-American writers. Political phenomena are examined relating to past writings, and inferences are made for future political behavior.

PLSC 570 Introduction to Public Administration 3 cr.
Examines the environment of public administration, organizational structure, executive functions, the politics and tools of administration, personnel processes, financial administration, and the problems of democratic control of bureaucracy.

PLSC 575 Public Sector Leadership and Accountability 3 cr.
Examines the characteristics of leadership and ethical principles which facilitate effective decision making and responsible behavior by elected and appointed officials at all levels of government. Current issues and circumstances will be emphasized during class discussions.

PLSC 580 Soviet Politics 3 cr.
Essential features of Communist party and government of U.S.S.R., including geographical and historical background and ideological and theoretical foundations.

PLSC 581 Special Topics 1-3 cr.
In-depth study of a specific problem or topic not regularly treated in courses. May be repeated.

PLSC 582-587 Political Studies 3 cr.
Comparative study of government and politics of a selected region.

PLSC 582 Africa

PLSC 583 Asia

PLSC 584 Middle East

PLSC 585 Central and Eastern Europe

PLSC 587 Latin America

PLSC 588 Political-Military Strategy 3 cr.
Deals with national security problems, including decision-making and budgeting levels of strategy; the utility of force, and the impact of the military on American society.

PLSC 589 Developing Nations 3 cr.
Deals with the political characteristics of emerging nations; the impact of economic and social change upon political structure; evolving patterns of political development; and techniques of nation-building.

PLSC 631 Human Resource Management in Public Sector 3 cr.
In-depth study of human resources management systems with special focus on public sector organizations. Emphasizes the development of an understanding of traditional functional systems as well as skills necessary to manage such systems successfully.

PLSC 666 Public Policy Analysis 3 cr.
Examines public policy using analytical tools and policy models. Considered within this framework are values and resources, the cultural-political environment, the policymaking process, and evaluation methods and their application to major policy areas.

PLSC 668 Public Sector Financial Administration 3 cr.
Concerned with the administration of fiscal and monetary processes of government on all three levels. Included are topics related to revenue and expenditure, how the former are calculated and provided for, and how the latter are prioritized and allocated via the budgetary process; control systems which are concerned with recordkeeping and the monitoring of the flow of revenues.

PLSC 670 Foreign Policy Studies 3 cr.
Considers selected problems in international affairs. Emphasis on those problems and conflicts which have evolved in the postwar era, particularly as they relate to position of the United States in world affairs. Specific problems are approached both in terms of countries involved and the existing balance in world economic, ideological, and power structure.

PLSC 671 Seminar in Public Administration 3 cr.
Intensive study of role of agencies and their administrators in determining and

COURSE DESCRIPTIONS

developing public policy. Public administration in practice is emphasized by utilizing case studies.

PLSC 672 Comparative Political Studies 3 cr.
Theory, structure, and function of state, county, and municipal governments are analyzed from a cooperative point of view. Special emphasis on comparing and contrasting ideas and institutions with those of the U.S.

PLSC 674 Analytical Techniques 3 cr.
Exposes the student to approaches, methods, tools, focus, and boundary lines of political science study. As a research methods course in graduate political science, it should be scheduled early in the program.

PLSC 675 International Political Economy 3 cr.
Examines the interaction between governments and markets on economic issues. This examination will occur comparatively both within countries and between nations. Acquaints students with the theoretical issues, trends, and findings of some of the major studies on and subfields within international political economy. Assumes a basic familiarity with foreign policy, comparative politics, and economics. Focus is on both international political economy as a subject and a field of study.

PLSC 678 The Ethical Dimensions of Leadership 3 cr.
Focuses on the ethical dimensions of leadership and strategies to integrate ethical considerations into organizational administrative, decision-making, and policy processes. To facilitate discussion and the application of ethics to professional practice, a series of speakers will examine the relationship between ethics and leadership within varying contexts. Case studies, videos, and exercises will also be used to link theory and practice. Students will be expected to complete all assigned readings prior to each class to facilitate their active participation in all discussions. A literature review project will provide students with the opportunity to pursue individualized interests related to leadership and ethics. Students not currently enrolled in the Administration and Leadership Studies Program must have the instructor's permission to register for this course.
Prerequisites: Doctoral Students - HMSV 701 Leadership Theories; Graduate Students - PLSC 666 Public Policy or SOC 610 Human Services Administration.

PLSC 681 Special Topics 1-3 cr.
In-depth study of a specific problem or topic not regularly treated in courses. May be repeated.

PLSC 690 Professional Practicum 3 cr.
Designed for graduate students who elect either an internship or field-based research project to fulfill the directed research requirement of Master of Arts in Public Affairs degree. Students are expected to enroll in the practicum during the summer following the completion of two semesters of course work. The practicum will last twelve weeks from mid-May through mid-August. An important part of the practicum will be four seminars that will meet on four Saturdays for four hours in mid-May, mid-June, mid-July, and mid-August. The seminars will focus on the development of a field-based or internship-based project design and the linkage of administrative and/or organizational theory with the practical experience acquired during the internship or field-based research activity.

PLSC 698 Political Science Internship 3-6 cr.
Practical experience in government and politics. Students are individually assigned to a cooperating local or state government agency, political party, or interest group or to a federal or international agency when arrangements can be made. Students report periodically to professor in charge and undertake reading assignments and write such reports and papers as the professor may require.
Prerequisite: Must have approval of instructor and department chairperson.

PLSC 699 Independent Study 1-3 cr.
Readings and written assignments on a specific topic determined by student and instructor in charge. May be repeated.

PLSC 850 Thesis 3 cr.

PSYC: Psychology

Department of Psychology
College of Natural Sciences and Mathematics

PSYC 554 Developmental Psychology 3 cr.
A comprehensive study of human growth and development from conception to death. Major research findings and developmental theories will be considered.

PSYC 557 Abnormal Psychology 3 cr.
Theories of pathological behavior with reference to clinical and experimental data.

PSYC 569 Industrial/Organizational Psychology 3 cr.
Study of psychological principles in an organizational setting of behavior; application of psychological principles to individual behavior and experience in organizations.

PSYC 574 Adult Development and Aging 3 cr.
A review of theories and research which apply to young, middle, and later adulthood, with particular emphasis on old age.

PSYC 578 Psychology of Death and Dying 3 cr.
Emphasizes the theories and research which delineate the psychological factors affecting the dying person as well as those people close to someone who is dying. Psychological, social, and cognitive factors affecting one's attitude toward death and approaches to coping with dying and death are studied. **Prerequisite:** Permission.

PSYC 581 Special Topics 3 cr.
Designed to examine a special topic in depth. Students prepare presentations representing selected research areas. **Prerequisite:** Permission.

PSYC 601 Research Methods in Psychology I 3 cr.
The design, statistical analysis, and report of laboratory experiments will be studied. **Prerequisite:** Permission.

PSYC 603 Evaluation Research 3 cr.
Introduction to the methodological issues involved in validly assessing the effectiveness of intervention programs relevant to psychology (e.g., human service programs), including a consideration of how the results of evaluation research can be used to improve such programs. Students will participate in either actual or simulated evaluation research projects. **Prerequisite:** Permission. PSYC 601 or equivalent.

PSYC 610 Historical Trends in Psychology 3 cr.
Comprehensive overview of historical antecedents of contemporary psychology. **Prerequisite:** Permission.

PSYC 630 Methods of Intervention I 3 cr.
Methods of studying and improving competency in interpersonal skills as a necessary ingredient of most models of therapy, such as psychoanalysis, client-centered, and behavior modification. Emphasis is placed on theory, research, and personal competence in communication. **Prerequisite:** Permission.

PSYC 631 Methods of Intervention II 3 cr.
Emphasis is placed upon the systematic study and application of social influence techniques to the modification of clinical problems. A broad spectrum of cognitive, physiological, and behavior change procedures are studied and evaluated with regard to their cost and effectiveness. A general problem-solving model for decision making, case evaluation, and accountability is advanced. **Prerequisites:** PSYC 630 and permission.

PSYC 632 Models of Learning 3 cr.
Several learning paradigms are described. Emphasis is on the theoretical assumptions underlying the models and their strengths and weaknesses. Applications of the models to changing maladaptive behavior are discussed. **Prerequisite:** Permission.

PSYC 633 Clinical Group Techniques 3 cr.
Provides instruction and experience in a variety of group techniques. Includes lectures, demonstrations, and participation in group exercises useful in the clinical psychology profession. **Prerequisite:** Permission.

PSYC 634 Family Therapy 3 cr.
Introduction to family and marital therapy. Both systems theory approaches and behavioral approaches will be considered. Process and outcome research will be reviewed. **Prerequisite:** Permission.

PSYC 635 Advanced Psychopathology 3 cr.
An in-depth study of the description, causes, and treatment of behaviors considered abnormal by our society. Integrates and extends previous materials in abnormal behavior, assessment, therapy, research methodology, and professional practice. **Prerequisites:** Previous undergraduate course in Abnormal Psychology and permission.

PSYC 636 Personality Theory and Systems of Psychotherapy 3 cr.
Several major personality theories are reviewed in a comparative manner with emphasis placed upon issues such as the assumptions about the basic nature of man, personality development, normal and pathological development, and philosophy of treatment for each theory. **Prerequisite:** Permission.

PSYC 637 Issues in Developmental Psychology 3 cr.
The processes and structures of life span development are studied. Cognitive.

emotional, social, and physical development will be explored, emphasizing the interactive effects of the person's environment, developmental level, and psychological state. **Prerequisite:** Permission.

PSYC 638 Racial, Cultural, and Gender Issues in Psychology 3 cr.
The operation of cultural, racial, and gender issues in the theory, research, and practice of psychology is examined. The ways in which a psychologist's own culture, race, and gender may influence professional practice are explored.

PSYC 641 Psychological Assessment I 3 cr.
Beginning course in theoretical issues and development of skills in assessing psychological functioning and in report writing. Beginning emphasis on intellectual assessment, followed by the development of an increasing variety of assessment tools. **Prerequisite:** Permission.

PSYC 642 Psychological Assessment II 3 cr.
Continuation of PSYC 641 with increased emphasis on development of skills in areas of objective and projective tests, behavioral observations, self-report measures, and other assessment techniques. **Prerequisites:** PSYC 641 and permission.

PSYC 646 Drugs and Behavior 3 cr.
Introduction to various aspects of drugs and behavior. Includes exploration of factors influencing drug effects, problems in drug research, therapeutic use of drugs, legal use and abuse of drugs, and social aspects of drug experience. **Prerequisite:** Permission.

PSYC 647 Clinical Neuropsychology 3 cr.
The study of the relationship between human brain dysfunction and abnormal behavior. Includes assessment techniques used to diagnose brain damage. **Prerequisite:** Permission.

PSYC 650 Community Psychology 3 cr.
An introduction to community psychology as an ecological approach to the understanding and changing of behavior. Emphasizes prevention rather than treatment of disorders and a concern with the development of programs to deal with a wide variety of human problems.

PSYC 651 Planned Social Change 3 cr.
Comparative evaluation of strategies for changing human behavior. Emphasis on techniques which alter the environmental context in which behavior occurs.

PSYC 652 Environmental Psychology 3 cr.
The relationship between human behavior and its environmental context. Emphasis on the role of physical and social environments in creating and perpetuating social problems.

PSYC 658 Advanced Social Psychology 3 cr.
Advanced survey of the relationship between the social environment and human behavior. Topics include social influence, attitude formation and change, attribution and social cognition, interpersonal attraction, aggression, altruism, small group interaction, and environmental psychology. **Prerequisite:** Permission.

PSYC 660 Child Clinical Psychology 3 cr.
Approaches unique to child psychopathology, assessment, and intervention are explored. Ages from birth to adolescence are covered. **Prerequisite:** Permission.

PSYC 661 Psychology and Medicine I 3 cr.
The area of health psychology and its role in behavioral medicine are introduced. Psychophysiology, which provides much of the foundation for health psychology, is studied through readings, lectures, and hands-on experiences with psychophysiological recording equipment. **Prerequisite:** Permission.

PSYC 670 Therapeutic Techniques Lab 2 cr.
Presents didactic and experiential training in tactics of achieving insight, emotional awareness, emotional escalation or reduction, cognitive-perceptual change, and behavior change for use in individual psychotherapy. **Prerequisites:** PSYC 630 or equivalent, simultaneous enrollment in PSYC 631, and instructor permission.

PSYC 681 Special Topics 1-6 cr.
Designed to examine a special topic in depth. Students prepare presentations representing selected research areas. **Prerequisite:** Permission.

PSYC 699 Independent Study in Psychology 1-6 cr.
Individual students develop and conduct research studies in consultation with a faculty member. **Prerequisite:** Permission.

PSYC 704 Clinical Research Methods 3 cr.
Introduction to data analysis techniques and methodological problems commonly encountered in clinical research. Methods appropriate for single subjects as well as groups are explored. **Prerequisites:** PSYC 601 and PSYC 641.

PSYC 706 Teaching of Psychology 1 cr.
Basic dimensions of the teaching process are discussed, including course planning and structure, developing and presenting lectures, using alternative pedagogical techniques, evaluating student performance, addressing issues of diversity in the classroom, etc. Skill-practice in these areas is emphasized. **Prerequisite:** Instructor permission.

PSYC 743 Psychological Assessment III 3 cr.
Continuation of PSYC 642 with emphasis on nontraditional assessment methods such as family observations, mental status ratings, and social skills assessment. Topics in clinical judgment and inference and a combination of assessment data and report writing are covered. **Prerequisite:** PSYC 642 or permission.

PSYC 760 Advanced Psychotherapy with Children 3 cr.
Theories and treatment interventions used in therapy with children are explored. Opportunities to practice basic psychotherapeutic skills in interviewing, treatment planning, and intervention provided under intensive supervision. **Prerequisite:** PSYC 660 or permission.

PSYC 761 Psychology and Medicine II 3 cr.
The roles of psychological and environmental variables in the development, maintenance, and recovery from disease are studied. Approaches to studying relationships between stress, coping, and disease are emphasized. **Prerequisite:** PSYC 661.

PSYC 763 Advanced Family Therapy 3 cr.
Concerns current family therapy theories and methods with an emphasis on brief, problem-focused models of assessment and interaction. Integrative approaches and family systems consultation also will be considered. **Prerequisite:** PSYC 634 or its equivalent.

PSYC 764 Hypnotic Methods in Psychotherapy 2 cr.
In-depth study of theory, research, and the clinical practice of hypnosis. **Prerequisites:** PSYC 630, PSYC 635, or their equivalents, and instructor permission.

PSYC 770 Professional Issues 3 cr.
An examination of professional problems in the field of clinical psychology. Includes topics such as training philosophies, licensure, legal issues such as involuntary commitment and expert witness, ethical standards, and professional organizations. **Prerequisite:** Permission.

PSYC 781 Special Topics 1-6 cr.
Examines a special topic in depth. Students prepare presentations representing selected research areas. **Prerequisite:** Permission.

PSYC 791 Family and Couples Clinic 1-6 cr.
Students will be assigned clients in the Family Clinic. A team training model is used with close supervision by the instructor. Available for variable credit and repeated enrollment. **Prerequisites:** PSYC 634 or its equivalent, successful supervised clinical experience, and instructor permission.

PSYC 792 Stress and Habit Disorders Clinic 1-6 cr.
A seminar clinic in the assessment and treatment of stress and habit disorders. Clients are assigned to students from the Stress and Habit Disorders Clinic. Available for variable credit and for repeated enrollment. **Prerequisites:** PSYC 631, PSYC 635 or their equivalents, and instructor permission.

PSYC 793 Assessment Clinic 1-6 cr.
Students will be assigned clients from the Assessment Clinic. Emphasis is placed on skill development in interviewing, administration and scoring of psychological assessment instruments, writing of reports, consultation with referral sources, and supervision. A team training model is used with close supervision by the instructor. Available for variable credit and for repeated enrollment. **Prerequisites:** PSYC 641, PSYC 642 or their equivalents, and instructor permission.

PSYC 798 Advanced Psychological Practicum 1-21 cr.
Provides supervised experience in applied settings. Variable credit depending on setting. **Prerequisite:** Permission.

PSYC 799 Internship 3 cr.
An in-depth supervised experience designed to assure a professional level of competence in several skill areas and to assist in developing an identity as a health care professional. May be taken full-time for twelve months or half-time for twenty-four months. **Prerequisite:** Permission.

COURSE DESCRIPTIONS

PSYC 850 Thesis

1-6 cr.

A supervised research project approved by a committee of faculty members. A thesis proposal must be approved by the end of the third full semester of graduate work, and the finished thesis must be defended within the following year. Students enroll for three semester hours for two semesters.

PSYC 950 Doctoral Project (Dissertation)

3-9 cr.

A culminating scholarly activity requiring the mastery of an area of professional interest. Requires a review of relevant literature and the collection and analysis of data. An oral presentation of the proposal and an oral defense of the finished product are required.

QBUS: Quantitative Business

Department of Management Information Systems and
Decision Sciences

Eberly College of Business and Information Technology

QBUS 500 Foundations of Business Statistics

3 cr.

A conceptual course designed to familiarize students with the basic techniques for obtaining, organizing, summarizing, analyzing, presenting, interpreting, and acting upon numerical activities. Topics include descriptive statistics, random variables, probability distributions, statistical sampling and survey methods, testing of hypotheses, analysis of variance, regression analysis, and time series. Major attention is given to identifying and describing the process involved in carrying out a statistical analysis and how statistical methods may be used within the managerial and business decision process.

QBUS 601 Quantitative Methods

3 cr.

Introduction to the concepts and methods of scientific problem solving in management. Students will learn to formulate mathematical models of complex decision problems and to solve these problems using quantitative methods. Topics covered include linear programming, inventory models, network models, waiting line models, and simulation. **Prerequisite:** QBUS 215, MATH 121.

QBUS 602 Seminar in Management Science

3 cr.

Builds upon the basic concepts, developed in QBUS 601, dealing with the theory and application of mathematical models in an organizational environment. Intended for the student who will actually be working with such models in his/her future occupation. Includes more advanced methods of linear programming, nonlinear programming, dynamic programming, and simulation. **Prerequisite:** QBUS 601.

QBUS 604 Seminar in Methodology of Business Research

3 cr.

Helps students acquire a basic understanding of the research process and a knowledge of the research methods needed in the design and execution of a competent applied behavioral research. Emphasizes measurement and scaling, survey research, and data analysis. **Prerequisite:** QBUS 601.

RHAB: Rehabilitation

Department of Special Education and Clinical Services
College of Education and Educational Technology

RHAB 590 Improving Professional Practice in Instructional Settings

1-3 cr. and

RHAB 591 Improving Professional Practice in Instructional Settings

1-3 cr.

Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

SAFE: Safety Sciences

Department of Safety Sciences
College of Health and Human Services

SAFE 520 Law and Ethics in the Safety Profession

3 cr.

Examines ethical and legal issues faced by practicing safety professionals. Students identify and evaluate these issues in terms of their own value system, as well as legal and prudent practice within the safety, health, and environmental profession. Case studies and anecdotal presentations are used to examine common issues and to prepare the students for their potential roles as expert witnesses in various forms of litigation. Specific reference is made to participation of the safety professional in workers' compensation cases. Occupational Safety

and Health Review Commission hearings, class action suits, and trials by jury.

Prerequisites: Permission of the instructor.

SAFE 541 Accident Investigation

3 cr.

Focuses on the various aspects of accident investigation such as recent theories associated with accident causes, investigative techniques, data acquisition, structure of investigative reports, management responsibilities, and remedial actions. Emphasizes determining sequence of events to develop management actions which will prevent recurrence of accidents. **Prerequisite:** Permission of instructor.

SAFE 542 Current Issues in Safety

3 cr.

Examines the emerging issues currently faced by the safety, health, and environmental (SH&E) practitioner that extend beyond the conventional areas of academic preparation. In addition to exploring certification, ethics, compliance issues, quality management, worldwide concerns, and other common issues, each student will research and present information on a specific item of current relevance in the safety profession. **Prerequisites:** SAFE 211 and SAFE 301 or permission of the instructor.

SAFE 543 Construction Safety

3 cr.

In-depth coverage of hazard recognition, evaluation, and control principles used for the variety of phases of construction. Information regarding the development of a construction safety program along with extensive coverage of federal standards related to the construction industry is also provided. **Prerequisite:** SAFE 211 or permission of the instructor.

SAFE 561 Air Pollution

3 cr.

Focuses on the various major aspects of the air pollution problem. These include sources of pollution, evaluation and engineering control of pollutants, government regulations, atmospheric chemistry and dispersion, and human and nonhuman effects. Emphasizes information that is practical for the safety sciences and industrial health professionals. **Prerequisites:** CHEM 101 and 102 or equivalent and SAFE 301 or equivalent courses or permission of the instructor.

SAFE 562 Radiological Health

3 cr.

Studies of problems associated with ionizing radiation in the human environment. Emphasizes biological effects, radiation measurement, dose computational techniques, exposure control, and local and federal regulations. The study and use of various radiological instruments is included. **Prerequisite:** PHYS 112 and SAFE 301, or permission of instructor.

SAFE 563 Right-to-Know Legislation

3 cr.

Covers both the federal and selected state right-to-know laws and related legislation. The scope, application, and enforcement of the various laws including specific legal and moral obligations are discussed. Strategies are explored and developed to identify the means by which employers can gain compliance with regulatory requirements. **Prerequisites:** SAFE 301 and SAFE 311 or permission of the instructor.

SAFE 581 Special Topics

3 cr.

A dual-level elective offering in which the specific topic may vary from one term to the next. **Prerequisite:** Permission of the instructor.

SAFE 602 Research Methods in Safety Management

3 cr.

Prepares individuals for the conduct of research in safety and its numerous subspecialties. Research paradigms, experimental design, data sources and collection, and statistical methods are covered in detail. The emphasis throughout is on quantitative approaches likely to produce valid new knowledge in the discipline of safety management. **Prerequisites:** MATH 217 or permission of the instructor.

SAFE 603 Human Relations in Safety Management

3 cr.

Integrates various behavioral science theories into the practice of safety management. Areas covered are motivation, communications, managerial interactions, and controlling worker behavior as it relates to accident causation. **Prerequisites:** PSYC 101 and MGMT 642 or permission of instructor.

SAFE 604 Industrial Toxicology

3 cr.

Principles and techniques for evaluating toxicological properties of chemical substances are studied with particular emphasis on extrapolation of information to determine permissible exposure limits in the workplace. Acquaints student is with requirements for operating an animal toxicology facility as well as means of obtaining relevant human experience data. **Prerequisites:** CHEM 101, CHEM 102, MATH 217 or permission of instructor.

SAFE 605 Application of Safety Engineering Principles

3 cr.

Prepares the student with a fundamental understanding of those hazards which can contribute to accidental injury and damage. These hazards are studied in an engineering context; their physical and chemical characteristics are studied in depth in order to make the appropriate hazard control measures better

understood. **Prerequisites:** SAFE 211 and PSYC 112 or permission of the instructor.

SAFE 606 Hazardous Materials Management 3 cr.
Examines the technical and management aspects of handling hazardous materials, including hazardous waste. Definitions and the procedures for determining hazard properties are reviewed. The student is introduced to the various regulations that pertain to hazardous materials. Responsibilities for creating, receiving, storing, handling, using, shipping and ultimately disposing of hazardous materials are discussed in detail. Examination of current trends and future directions is included. **Prerequisites:** SAFE 311, CHEM 101, and CHEM 102 or permission of the instructor.

SAFE 610 Safety, Health, and Environmental Administration 3 cr.
Examines administrative concepts and principles regarding organizing and managing the functional areas of safety, health, and the environment within an organization. Students will be introduced to management practices unique to SH&E programs as well as concepts related to organizational culture, labor relations, professional ethics, workers compensation, and medical management.

SAFE 620 Safety Data Management 3 cr.
Covered are design of loss incident source documents and code dictionaries; procedures to collect accident cost and cause data; accident cause analysis; and data for management accountability and decision making. **Prerequisites:** SAFE 412 or permission of instructor.

SAFE 621 Programming Safe Behavior 3 cr.
The student will learn to apply behavior principles to motivate safe behavior (SB) in the workplace. Included are Programming Safe Behavior, SB program funding proposals, employee performance analysis, safe behavior definitions, workplace motivations and incentives, and SB program design, implementation, and evaluation. **Prerequisites:** Permission of the instructor.

SAFE 623 Advanced Safety Administration 3 cr.
Analyzes the management structure for its procedures, organizations, policies, and departmental competencies as they relate to safety. Ways to audit and improve management's safety effectiveness are covered. **Prerequisites:** SAFE 412 or permission of instructor.

SAFE 624 Solving Safety Problems 3 cr.
The students will be presented with common scenarios that safety professionals face while trying to advise management on ways to prevent accidents. The students will use problem-solving skills and safety knowledge to deal effectively with and resolve safety management problems such as being assigned a safety responsibility that is clearly another manager's responsibility and having objections raised about one's proposed project plans. **Prerequisites:** SAFE 603 or permission of the instructor.

SAFE 625 Risk Strategies for the SH&E Professional 3 cr.
This course will provide the student with a thorough understanding of the fundamentals of risk management, including leading-edge risk identification, control, finance, and transfer recommendations. The course will address workers' compensation, product risk management, construction risk management and wrap-up programs, catastrophic risk management, quantitative methods, risk finance, and risk management technology.

SAFE 642 Advanced Mine Safety Engineering 3 cr.
Provides an understanding of advanced subjects concerned with mine health and safety. Details the cost-benefit analysis of each phase of the mineral industry and the design features of various mining operations of the United States. **Prerequisites:** SAFE 232 and SAFE 401 or permission of instructor.

SAFE 644 Preventing Unsafe Acts 3 cr.
Accident cause analysis narrowed to behavior analysis to determine motivation problems and behavior skill deficiencies with appropriate intervention techniques are covered. Cost benefit analysis of accident costs versus training program benefits and OSHA training requirements are presented. Proposals for funding of training programs as well as writing behavioral objectives are covered. Course descriptions and course, unit, and lesson outlines as well as lesson plan development are presented. Lesson plan presentations and evaluation techniques are included.

SAFE 645 Principles of Occupational Safety 3 cr.
Provides the student with a fundamental knowledge on the technical and managerial aspects of the safety and health function within an organization. The effects of loss incidents, accident causation, safety and health legislation, and safety program development will be some of the managerial aspects covered in this course. The technical aspects of the course will focus on the recognition, evaluation, and control of common safety, fire, and repetitive motion hazards in the workplace. This course will not count toward meeting the degree requirements for the M.S. Degree in Safety Sciences.

SAFE 647 Applied Ergonomics 3 cr.
Ergonomic principles used in the identification, analysis, and implementation of intervention strategies to address hazards in the workplace will be presented. Focus will be on the application of strategies to identify and correct ergonomic problems in the workplace using evaluation equipment and video case studies of actual workplace situations. **Prerequisites:** BIOL 155 or permission of the instructor.

SAFE 660 Applied Industrial Hygiene 3 cr.
Examines the current expectations and responsibilities of professionals engaged in the practice of industrial hygiene. Students become familiar with 1) the current approaches to anticipating and identifying potential health hazards in the workplace and/or environment, 2) methods and techniques for determining quantitatively the amount of environmental stresses present, and 3) proper strategies and methods for implementing effective controls. **Prerequisites:** BIOL 155, SAFE 301, SAFE 303, and SAFE 402 or permission of the instructor.

SAFE 663 Industrial Hygiene Laboratory Methods 3 cr.
Laboratory methods germane to industrial hygiene sampling and analytical methods are studied in depth. Introduces a variety of laboratory procedures as well as biological monitoring. Sampling and analytical statistics are also emphasized. **Prerequisites:** SAFE 302 and SAFE 303 or permission of instructor.

SAFE 664 Industrial Noise Control 3 cr.
Provides an understanding of the physics of sound, functioning of the human hearing mechanism, instrumentation for measuring sound levels, and application of control strategies. Emphasis is placed on engineering controls, although administrative controls and use of personal protective equipment are discussed as well. Components of an overall continuing, effective hearing conservation program are reviewed in detail.

SAFE 667 Principles of Occupational Health 3 cr.
Provides comprehensive coverage of the industrial hygienist's responsibility for recognition, evaluation, and control of environmental stressors arising in or from the workplace. Students learn how to recognize and evaluate exposures to chemical, physical, and biological hazards. Emphasis is also placed on the identification of appropriate control strategies, including program development and evaluation. This course will not count toward meeting the degree requirements for the M.S. Degree in Safety Sciences.

SAFE 672 Process Safety in the Chemical Industries 3 cr.
Designed to cover all important aspects of loss prevention as it is practiced in the chemical process industries. Seeks to prepare the safety professional so that he/she may be able to work more effectively with chemists and chemical engineers in joint hazard identification, evaluation, and control projects. **Prerequisite:** SAFE 311 or equivalent or permission of instructor.

SAFE 673 Disaster Preparedness 3 cr.
Principles and techniques for preparing for various types of disasters. The students are acquainted with requirements necessary to develop workable plans for natural and industrial types of disasters. Loss prevention measures are discussed, directed toward preservation of organization resources. **Prerequisite:** SAFE 311 or equivalent or permission of instructor.

SAFE 674 Fire Safety in Building Design 3 cr.
Examines fundamental principles for the safe design of buildings from a fire hazard standpoint. Emphasis is given to an understanding of building codes, fire properties of building materials, building design criteria to limit the spread of fire and smoke, control of ignition sources, storage of combustibles and flammables, life safety, and active fire protection systems. **Prerequisite:** SAFE 311 or permission of instructor.

SAFE 681 Special Topics 3 cr.
A graduate-student-only elective offering in which the specific topics may vary from one term to the next. **Prerequisite:** Permission of instructor.

SAFE 699 Independent Study 3 cr.
Study in depth of a topic not available through other course work. Student works with supervising faculty member on carefully planned, student-initiated project. Prior approval is necessary. **Prerequisite:** Permission of instructor.

SAFE 850 Thesis 3 cr.
The thesis will require a committee review with one faculty member serving as the student's advisor. The committee will also include two additional faculty members and a representative of the dean of the College of Health and Human Services. **Prerequisite:** Permission of instructor.

SAHE: Student Affairs in Higher Education

Department of Student Affairs in Higher Education
College of Education and Educational Technology

SAHE 590 Improving Professional Practice in Instructional Settings 1-3 cr.
and

SAHE 591 Improving Professional Practice in Instructional Settings 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

SAHE 621 History of Higher Education in the United States 3 cr.
Growth and trends in higher education with emphasis on the twentieth century. In addition to the traditional modes of postsecondary education, continuing education programs, community colleges, and adult education will also be examined. A secondary focus will be the evolving role of student affairs.

SAHE 624 Student Affairs Functions in Higher Education 3 cr.
Overview of student affairs work in higher education, highlighting functional areas of student affairs, organization, philosophy, and the role of the services applied to the institution and the profession.

SAHE 625 Theories of Personality and Human Development 3 cr.
Designed to expose students to a variety of theoretical models underlying human behavior and development. Through presentations, demonstrations, small group discussions, experiential activities, readings, and position papers, students evaluate the practical applications of contemporary personality and human development theories.

SAHE 631 Student Development in Higher Education 3 cr.
Provides an overview of student development theories and the student development model. Includes the application of assessment, goal setting, intervention strategies, environmental management, and evaluation in higher education settings. Explores issues such as changing sex roles, sexual identity, life planning, and needs of special student groups.

SAHE 634 Assessment and Evaluation in Student Affairs 3 cr.
An overview of the fundamental principles of tests, assessment, and evaluation as they pertain to student affairs. Statistical measurement concepts, methodological principles in survey research, instrumentation for developmental and environmental assessment in student affairs, outcomes assessment, and program evaluation issues will be explored. **Prerequisites:** SAHE 621, SAHE 624, and SAHE 625.

SAHE 638 Topical Areas in Student Affairs 3 cr.
Provides the graduate student an opportunity to examine four areas of content related to the study of student affairs (technology, academic governance, law, and the community college) in higher education that have an impact on the student affairs profession and the work of practitioners.

SAHE 640 Cultural Pluralism in Higher Education 3 cr.
An overview of the issue of cultural pluralism in higher education. Encourages the development of culturally effective student affairs practitioners who will promote cross-cultural understanding among college students. Examines the projected demographic realities for the groups traditionally termed "minority" and explores notions of culture, oppression, marginalization, racial identity, and multicultural organizations. Exposure to these issues will occur in both the theoretical and personal realms with student introspection and participation intended as key features of the course.

SAHE 646 Interpersonal Sensitivity 3 cr.
Participants will explore their interpersonal interaction style in groups and individually. Human potential of the students will be developed as they enter into authentic, honest, and trusting relationships within the context of a small-group experience, encouraging an examination and understanding of oneself and one's impact on others.

SAHE 681 Special Topics 3 cr.

SAHE 731 Practicum in Student Affairs 3 cr.
Affords the student an opportunity to gain practical experience in dealing with theories of his/her specialties. Includes one or two semesters in one of the student affairs offices at IUP or another institution under the leadership of a departmental director or coordinator.

SAHE 733 Management of Organizational Behavior in Higher Education 3 cr.
Teaches managerial concepts and skills for managing student personnel programs or services. Concepts covered include the Process School of Management, Situational Leadership, Ethics, and Management Theory models.

SAHE 735 Individual and Group Interventions 3 cr.
Practical experience in skilled helping techniques, including practice in one-on-one interaction, skill in designing and implementing developmental group intervention (workshops), and skill in developing mentoring relationships. Students apply theoretical learning into practical application. **Prerequisites:** SAHE 621, SAHE 624, SAHE 625 and SAHE 631.

SAHE 737 The American College Student 3 cr.
Examines the culture of undergraduate students in American higher education to prepare professionals for the clients they will serve. Focuses on the changing student clientele and its subgroups and cultures. Undergraduate characteristics, attitudes and values, and broad issues regarding their participation in the educational experience will be explored.

SAHE 740 Contemporary Issues in Higher Education 3 cr.
Introduces students to a variety of current issues in higher education that have a dramatic impact for students, the student affairs profession, and the work of student affairs administrators. Strategies to address major issues are discussed.

SAHE 850 Thesis 3-6 cr.

SOC: Sociology

Department of Sociology
College of Humanities and Social Sciences

SOC 527 Spouse Abuse 3 cr.
Considers the range of theoretical explanations for the pervasive violence between husband and wife, cohabitating partners, or dating couples. Research on spouse abuse and its implications for treatment programs, criminal justice intervention, and social policy are discussed.

SOC 528 Child Abuse 3 cr.
The prevalence, etiology, and social implications of physical, sexual, and emotional abuse and child neglect are examined. Intervention strategies for individual perpetrator and victim and for the family unit and prevention strategies for the community are also presented and critiqued.

SOC 542 Social and Cultural Aspects of Health and Medicine 3 cr.
Review of fields of medical sociology and anthropology; focuses on such topics as social background of illness, folk medicine, cultural differences in perceptions of health, and social organization of health facilities.

SOC 552 Disability and Society 3 cr.
Analyzes disability from a sociological perspective. Includes a consideration of historical and current views of disability and a review of related concepts from the fields of medical sociology and the sociology of deviance. Also includes an analysis of the effects of disabilities on individuals and families through the life course and a consideration of related ethical, economic, political, and social policy issues. The emphasis is on disability as a social construction.

SOC 581 Special Topics in Sociology 3-6 cr.
Seminar focuses on specialized areas in the discipline not covered by regular courses. Students will do extensive reading in the area. Courses may be repeated under different subtitles.

SOC 610 Sociology of Human Services 3 cr.
Introduction to the theoretical and applied roles of human services in our society. Organizational theories, delivery systems models, and implementation issues are discussed.

SOC 611 Human Services Administration 3 cr.
Examines the management of human service agencies, including personnel supervision, financial planning, public relations, and social policy issues. Evaluation design, program monitoring, and social impact measurement are also discussed.

SOC 612 Methods for Human Service Practitioners 3 cr.
Enables students to apply sociological methods such as observation, interviewing, and questionnaire development to direct service situations. Students will work with service users in area agencies to help them identify their resources, concerns, and priorities and to develop family service plans.

SOC 621 Sociology of Health Care 3 cr.

Examines the contrasting perspectives in the field of medical sociology, the structure of health care institutions, and the operation of health care providers. The social, environmental, and occupational factors in health and disease are considered as well.

SOC 630 Seminar in Alcohol and Drug Abuse 3 cr.

The social and personal problems associated with alcohol and drug abuse are considered. Attention will be given to the etiology, social factors, and economics of abuse, as well as to prevention and intervention issues.

SOC 632 Addiction and the Family 3 cr.

Assesses the impact of alcohol or drug addiction on individuals and their families. Research on addiction patterns, codependency, and family treatment is discussed. Special attention is given to gender and racial differences in addiction and their impact on the family.

SOC 636 Sociology of the Family 3 cr.

Involves the sociological analysis of the family from a variety of theoretical viewpoints such as functionalism, conflict theory, exchange theory, symbolic interactionism, systems theory, and developmental theory. Special emphasis is placed on the contemporary American family. However, cross-cultural and historical comparisons will be made, with the focal theme being the "decline of the family." Specific topics to be covered include: gender, the family in historical context, power relationships and family roles, parent-child interaction, marital satisfaction, marital disruption, and the interrelationships between race/ethnicity, social class, work roles, the family, and family policy. **Prerequisite:** Graduate only.

SOC 638 Seminar on At-Risk Children 3 cr.

Examines the impact of societal structures on children in the United States today. Emphasizes the adverse impact of poverty and related conditions, such as poor health care, neglect, homelessness, parental drug abuse, and neighborhood violence. Economic, political, and cultural factors that produce these conditions are reviewed and compared with those in other countries with better child outcomes. This review and comparison lead to a consideration of implications for social policy change.

SOC 642 Industrial Sociology 3 cr.

Examines structure and exercise of corporate power. Attention is given to relationships between industry, government, and communities and the transformation of the workplace in the twentieth century.

SOC 650 Gender and Society 3 cr.

Considers the position of women and men in society. Examines current perspectives and research on the nature of gender differences and causes of gender inequality. Explores how gender is structured and maintained in both public and personal lives, in such arenas as family, education, and work and in gendered interactions of friendship and love, sexuality, and violence.

SOC 654 Social Inequality 3 cr.

Examines central theoretical perspectives on social inequality. Considers such topics as the nature of social classes and inequality; characteristics of working class, poor, and super-rich; gender and racial inequality; and how social policies affect inequality in the United States.

SOC 656 Social Change 3 cr.

Explores nature and consequences of social change, alternative theoretical perspectives on social change, and how social change might be implemented. Also discusses lessons to be learned from various planned change efforts.

SOC 657 Aging and Society 3 cr.

Focuses on the social problems encountered by aging individuals in various societies. The impact of sociological factors, such as social class, ethnicity, and technological change, on the lives of the elderly are studied. The institutional structures and services designed to cope with changing demographics are also discussed.

SOC 662 The Sociology of Deviance 3 cr.

Relationship between individual deviance and social and cultural factors is examined. How different groups set limits for acceptable behavior is analyzed in comparative and historical context.

SOC 664 Research Seminar in Sociology 3 cr.

Examination of diverse research designs in the social sciences. Focuses on understanding and critique of designs in the social sciences and on integration of theory and research. Special attention given to development of thesis proposal. Required for M.A. in Sociology.

SOC 665 Microcomputing Applications in Sociology 3 cr.

Analysis of data for social research, human service agencies, or public organizations. Students develop database management systems which can be applied to social research, human service agencies, or policy organizations, as well as spreadsheets for program budgeting, evaluations, and forecasting. Required for M.A. in Sociology. **Prerequisite:** COSC 311 or equivalent.

SOC 667 Contemporary Sociological Theory 3 cr.

Examination of major systems of sociological theory and major theoretical controversies vying for attention in contemporary sociology. Emphasis given to theories in macrosociology, especially functionalism, neo-Marxian conflict theory, and societal evolutionism. Required for M.A. in Sociology.

SOC 681 Special Topics in Sociology 3-6 cr.

Seminar focuses on specialized areas in the discipline not covered by regular courses. Students will do extensive reading in the area. Courses may be repeated under different subtitles.

SOC 698 Internship 3-6 cr.

Supervised experience in public or private organizations that extends and complements classroom instruction. Student gains practical experience and applies their skills to human service agencies, public organizations, or research settings. **Prerequisite:** Permission.

SOC 699 Independent Study in Sociology 1-3 cr.

Students wishing to specialize beyond course work are encouraged to work on a one-to-one basis with faculty members in independent study. Students may elect up to a total of six semester hours of independent study.

SOC 701 Social Policy Issues in Organizations 3 cr.

Analyzes impact and implementation of selected social policies (e.g., affirmative action, sexual harassment, substance abuse policy) in human organizations. Assesses efforts to enhance and respond effectively to ethnic, racial, social class, and gender diversity in organizations.

SOC 764 Seminar in Applied Human Services Research 3 cr.

Emphasizes analytical tools and methodologies relevant to students in human services administration and serves as the foundation for the completion of the students' field experience and dissertation research requirements. Projects will be assigned to facilitate an in-depth understanding and working knowledge of social science research processes, methodologies, and analytical tools, with emphasis on those especially applicable to program evaluation and needs assessment. In addition, by the end of the course, each student should have identified a dissertation topic and developed a preliminary dissertation research design. **Prerequisites:** SOC 664 and GSR 681 Statistics for Human Services

SOC 850 Thesis 3-6 cr.

For the student writing the thesis. A thesis proposal must be submitted to the department's graduate coordinator and approved by the Sociology Graduate Committee prior to registering for thesis credits. A completed thesis involves a supervised research project approved by a committee composed of the student's thesis adviser and two additional faculty members.

SPLP: Speech-Language Pathology

Department of Special Education and Clinical Services
College of Education and Educational Technology

SPLP 590 Improving Professional Practice in Instructional Settings 1-3 cr.

and
SPLP 591 Improving Professional Practice in Instructional Settings 1-3 cr.
Reviews current research on instructional practices, instructional techniques, and professional issues. May focus on any of these aspects of teaching, learning, professional practice. May be presented with a certificate or a graduate level elementary certificate, or secondary certificate. Offered for continuing professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

SPLP 600 Neurolinguistics 3 cr.

An overview, basic analysis of those processes of the central nervous system that control linguistic functions, with special emphasis on the organization of the linguistic system and the neurological control of human communication. Prepares the student for advanced study of speech and language development and linguistic communication disorders in children and adults. **Prerequisite:** Graduate status in Speech-Language Pathology or permission of the instructor.

COURSE DESCRIPTIONS

SPLP 604 Diagnostic Methods 3 cr.
Evaluation of tests and techniques of diagnosis of speech and language disorders; interpretation of results and planning appropriate, subsequent case management. Interviewing techniques appropriate to case history taking. Writing of diagnostic and case-history reports.

SPLP 610 Articulation 3 cr.
Linguistic approach to articulatory process and analysis of misarticulation as symptoms of language dysfunction; variables related to articulatory mastery; programmed, traditional, and sensory-motor methods of modifying articulatory behavior.

SPLP 616 Stuttering 3 cr.
Nature and causes of stuttering. Emphasis on diagnosis and management. Counseling and learning theory application as two main approaches to treatment. Consideration of the person as a stutterer. Review of pertinent and recent research topics.

SPLP 618 Voice 3 cr.
Scientific principles of voice production and modification with emphasis on physiology, pathologies, or malfunctioning which produce voice defects; relationship between disorders of voice and personality; diagnostic and therapeutic considerations for both organic and psychogenic disorders, including the laryngectomized.

SPLP 630 Language Disorders of Children 3 cr.
Anatomical, physiological, psychological, neurological, and environmental factors related to language delay or disordered language acquisition. An inventory of language skills and means of fostering their development or compensating for inadequacies; a holistic versus specific approach to programs of remediation. **Prerequisite:** SPLP 600.

SPLP 632 Neurological Communication Disorders 3 cr.
Consideration of language, speech, and related problems resulting from neurological insult. Neurological dysfunctioning will be highlighted. Diagnosis and management of persons with aphasia, agnosias, apraxias, and dysarthrias will be emphasized, as well as the role of the family in rehabilitation and family counseling.

SPLP 635 Seminar in Communication 1-3 cr.
Intensive study of one or more areas of speech science, speech and language pathology, or audiology. Topics vary to meet the student's needs and interests. Course may be repeated for credit with a change in area considered. **Prerequisites:** Speech-Language Pathology major, admission to degree candidacy, and advisor approval.

SPLP 640 Diagnostic Audiology 3 cr.
Identification and description of types of hearing impairment by standard audiometric procedures including pure tone, speech, and site of lesion batteries. Testing of special populations as well as evaluation for fitting of amplification.

SPLP 661 Advanced Clinical Practicum I 2-6 cr.
Supervised practicum experience in the University Speech and Hearing Clinic with individuals exhibiting speech, language, and/or hearing dysfunction. Planning and administration of programs of therapy plus interviewing, diagnosing, counseling, and report writing.

SPLP 662 Diagnostic Clinic 1 cr.
Supervised practicum experience in performing in-depth diagnostic evaluations with individuals exhibiting any type of speech, hearing, or language dysfunction. Experience in taking case histories, conferring with patients, and report writing.

SPLP 663 Hearing Testing Clinic 1 cr.
Supervised practicum experience in performing diagnostic audiological tests.

SPLP 671 Advanced Clinical Practicum II 1-6 cr.
Similar to SPLP 661; students assume more responsibility, and experience may take place at approved off-campus sites. **Prerequisite:** SPLP 661.

SPLP 681 Special Topics

SPLP 696 Internship in Hospitals 6 cr.
Supervised clinical experience in off-campus hospital settings with individuals exhibiting speech, language, and/or hearing dysfunction. Planning and implementing programs of therapy plus interviewing, diagnosing, counseling, and report writing. **Prerequisites:** Methodology and on-campus practicum courses, permission of graduate coordinator.

SPLP 697 Internship in Community Agencies 6 cr.
Supervised clinical experience in off-campus community agency settings with individuals exhibiting speech, language, and/or hearing dysfunction. Planning

and implementing programs of therapy plus interviewing, diagnosing, counseling, and report writing. **Prerequisites:** Methodology and on-campus practicum courses, permission of graduate coordinator.

SPLP 698 Internship in Schools 6 cr.
Supervised clinical experience in school settings with individuals exhibiting speech, language, and/or hearing dysfunction. Planning and implementing programs of therapy plus interviewing, diagnosing, counseling, and report writing. **Prerequisites:** Graduate methodology, on-campus practicum courses, permission of graduate coordinator, and undergraduate Professional Education Sequence.

SPLP 850 Thesis 3 cr.

THTR: Theater

Department of Theater and Dance
College of Fine Arts

THTR 586 Practicum in Production 1-6 cr.
An opportunity with academic credit for students to make significant contributions to campus productions augmenting theater course work in the areas of assistant directing or directing, stage management, technical direction, sound design, lighting, costuming, scene design, properties and set decoration, scene building, and painting and make-up design. May be repeated for a maximum of six credits. **Prerequisite:** Permission.

THTR 693 Internship 1-12 cr.
Supervised working experience in the context of a professional theater environment in a company employing professional actors, directors, and/or designers. **Prerequisite:** Permission.

VOED: Vocational Education

Center for Vocational-Technical Personnel Preparation
School of Continuing Education

VOED 600 Curriculum Development and Vocational Education 3 cr.
Emphasis is on processes for making curriculum decisions and guiding others in developing and updating curriculum for vocational education. Current occupational standards and societal needs, as well as state and federal regulations governing vocational education, are used as a basis for curriculum decisions.

VOED 601 Curriculum and Instructional Leadership in Vocational Education 3 cr.
Curriculum management skills are developed and utilized to plan and organize vocational curriculum. Focus is on practical curriculum decisions when they involve guiding other staff in curriculum development for vocational education.

VOED 602 Conference Leadership and Communication Methods in Vocational Education 3 cr.
Basic concepts in supervision of vocational programs are reviewed. Human relations, communications, processes, decision making, helping conferences, and leadership strategies are emphasized. Students demonstrate ability to perform supervisory skills in an individualized manner in an actual vocational school situation supplemented by seminars.

VOED 603 Management of Instruction for Vocational Education 3 cr.
Classroom instructional tasks performed by the vocational educator are studied, including procedures, materials, and learning and instructional styles. Emphasis is on leadership strategies and processes to guide and assist other vocational instructors. Skills are developed in an individualized, self-paced manner in an actual vocational school situation supplemented by seminars.

VOED 604 Curriculum Supervision in Vocational Education 3 cr.
Emphasizes skills needed to provide leadership in supervision of faculty and staff. In consultation with his or her advisor, each student identifies areas that need enhancement in vocational settings. Skills are developed in an individualized, self-paced manner in an actual vocational school situation supplemented by seminars.

VOED 605 Policy Administration 3 cr.
Develops skills to communicate vocational school policies and activities effectively with staff, students, and community. Includes study of student recruitment for vocational programs and maintenance/expansion/utilization of school facilities. In consultation with his or her advisor, each student will identify those areas that need further refinement. The student will develop and perform each requisite skill in an individualized, self-paced manner in an actual vocational school situation supplemented by seminars.

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 Krish S. Krishnan, Business (M.B.A., M.B.A. Executive Track)
 Dawn E. Woodland, Business/Workforce Development (M.Ed.)
 Lawrence Kupchella, Chemistry (M.A., M.S.)
 Beverly Goodwin, Clinical Psychology (Psy.D.)
 Claire J. Dandeneau, Community Counseling (M.A.), School Counseling (M.Ed.)
 Daniel R. Lee, Criminology (M.A.)
 Jennifer Roberts, Criminology (M.A., Pittsburgh)
 David L. Myers, Criminology (Ph.D.)
 Frank Corbett, Jr. and Mary R. Jalongo, Curriculum and Instruction (D.Ed.)
 Mary R. Jalongo, Early Childhood Education (M.Ed.)
 Victoria B. Damiani, Educational Psychology (M.Ed.)
 Janice M. Baker, Education of Exceptional Persons (M.Ed.)
 James R. Myers, Elementary/Middle School Mathematics Education (M.Ed.)
 Jerry Gebhard, English, Composition and TESOL (M.A., M.A.T.E., Ph.D.)
 Karen A. Dandurand, English, Literature and Criticism (M.A., Ph.D.)
 Stephanie A. Taylor-Davis, Food and Nutrition (M.S.)
 John E. Benhart, Geography (M.A., M.S.)
 Alan T. Baumler, History (M.A.)
 Jennie K. Bullard, Industrial and Labor Relations (M.A.)
 Anne D. Creany, Literacy (M.Ed.)
 Valeri R. Helterbran, Master's in Education (M.Ed.)
 Margaret Stempien, Mathematics Education (M.Ed.)
 Christian M. Dickinson, Music (M.A.)
 Nashat Zuraikat, Nursing (M.S.)
 Muhammad Z. Numan, Physics (M.A., M.S.)
 Cathy C. Kaufman, Principal Certification
 Alicia V. Linzey, Professional Growth (M.A., M.S., M.Ed.)
 David D. Chambers, Public Affairs (M.A.)
 Robert D. Soule, Safety Sciences (M.S.)
 Joseph Kovalski, School Psychology (D.Ed.)
 Robert Heasley, Sociology (M.A.)
 Shari Robertson, Speech-Language Pathology (M.S.)
 Madeline Bayles and Robert Kostelnik, Sport Science (M.S.)
 Ronald Lunardini, Student Affairs in Higher Education (M.A.)

Faculty Members Eligible to Teach at the Graduate Level

Eberly College of Business and Information Technology

Department of Accounting

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Pressly, Thomas B.S., Youngstown State University; M.B.A., Youngstown State University; Ph.D., Kent State; Associate Professor

Rahman, Monsurur B.C., University of Dhaka; M.C., University of Dhaka; M.B.A., University of Minnesota; M.A., University of Arizona; D.B.A., Southern Illinois University; Professor

Woan, Ronald Ph.D., Florida State University; Associate Professor

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Ames, William Dennis M.B.A., Golden Gate University; J.D., Ohio Northern University; L.L.M.(Tax), University of San Diego; Associate Professor

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Eastman, Alan D. B.S., Bucknell University; M.S., Pennsylvania State University; A.B.D., University of North Carolina at Chapel Hill; Ph.D., Florida State University; Associate Professor

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College of Fine Arts

Department of Art

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Gillham, Andrew, B.A., Albion College; M.F.A., Michigan State University; Associate Professor

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Villalobos Echeverria, Patricia, B.F.A., Louisiana State University; M.F.A., West Virginia University; Associate Professor

Weiland, Christopher, B.S., Indiana University of Pennsylvania; M.Ed., Pennsylvania State University; M.F.A., Rochester Institute of Technology; Professor

Department of Music

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Eisensmith, Kevin E., B.S., Indiana University of Pennsylvania; M.M., Georgia State University; D.M.A., Temple University; Associate Professor

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School of Graduate Studies and Research Deadlines

The following dates are deadlines for applications for graduation and submission of thesis/dissertation materials.

Applications for Graduation and Submission of Thesis/Dissertation Materials

For a December Graduation:

May 15	Doctoral candidates must have filed a Research Topic Approval Form in the School of Graduate Studies and Research.
August 15	Master's candidates must have filed a Research Topic Approval Form in the School of Graduate Studies and Research.
October 1	Both master's and doctoral candidates must have filed an application for graduation with the School of Graduate Studies and Research.
November 15	Archival copies of signed thesis and the necessary forms and fees must have been submitted to the School of Graduate Studies and Research.

For a May Graduation:

August 15	Doctoral candidates must have filed a Research Topic Approval Form in the School of Graduate Studies and Research.
December 15	Master's candidates must have filed a Research Topic Approval Form in the School of Graduate Studies and Research.
March 1	Both master's and doctoral candidates must have filed an application for graduation with the School of Graduate Studies and Research.
April 15	Archival copies of signed thesis and the necessary forms and fees must have been submitted to the School of Graduate Studies and Research.

For an August Graduation:

December 15	Doctoral candidates must have filed a Research Topic Approval Form in the School of Graduate Studies and Research.
May 15	Master's candidates must have filed a Research Topic Approval Form in the School of Graduate Studies and Research.
June 1	Both master's and doctoral candidates must have filed an application for graduation with the School of Graduate Studies and Research.
July 15	Archival copies of signed thesis and the necessary forms and fees must have been submitted to the School of Graduate Studies and Research.

Please note: The dates for filing the "Research Topic Approval Form" prior to writing a thesis or dissertation are also listed in the *Thesis/Dissertation Manual* available in the School of Graduate Studies and Research.

Telephone Numbers

If you have a question concerning a specific graduate program at IUP, please contact the department chairperson. Telephone numbers are listed below for your convenience.

(All numbers are within the 724 area code.)

Academic Departments

Accounting	357-2686
Adult and Community Education	357-2470
Anthropology	357-2841
Art	357-2530
Biology	357-2352
Chemistry	357-2361
Communications Media	357-2492
Computer Science	357-2524
Counseling	357-2306
Criminology	357-2720
Economics	357-2640
Educational and School Psychology	357-2316
English	357-2261
Finance and Legal Studies	357-4818
Food and Nutrition	357-4440
Foreign Languages	357-2325
Geography and Regional Planning	357-2250
Geoscience	357-2379
Health and Physical Education	357-2770
History	357-2284
Hospitality Management	357-2626
Human Development and Environmental Studies	357-2336
Industrial and Labor Relation	357-4470
Journalism	357-4411
Management	357-2535
Marketing	357-3170
Mathematics	357-2608
Management Information Systems and Decision Sciences	357-2929
Music	357-2390
Nursing and Allied Health Professions	357-2557
Philosophy	357-2310
Physics	357-2370
Political Science	357-2290
Professional Studies in Education	357-2400
Psychology	357-2426
Religious Studies	357-2310
Safety Sciences	357-3018
Sociology	357-2730
Special Education and Clinical Services	357-2450
Student Affairs in Higher Education	357-1251
Technology Support and Training	357-3003
Theater and Dance	357-2965

Other Frequently Called Numbers

Campus Dining (ARAMARK)	357-2570
Campus Police and Parking/Traffic Control	357-2141
Career Services	357-2235
Co-op Store (Bookstore)	357-3145
Financial Aid	357-2218
Graduate School Admissions	357-2222
Health Center	357-2550
Housing and Residence Life	357-2696
Library Reference Desk	357-3006
Registrar	357-2217
University Information	357-2100



Indiana University of Pennsylvania

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E-mail: graduate-admissions@up.edu